

COAL MINING

"The Picture-Book of the Industry"

MAY 1949

VOLUME XXVI, No. 5

NEW YEAGER ALL-ELECTRIC STEAM CLEANER



Using electricity to make steam, the Yeager All Electric Steam Cleaner provides a powerful flow of highly saturated steam blast which quickly and thoroughly removes the heaviest deposit of the most stubborn grease or dirt on mining machinery. The Yeager all-electric steam cleaner is approved by the Pennsylvania Department of Mines for use in fresh air underground and application has been made with the United States Bureau of Mines for approval in gaseous area.

Available in standard approved models in 220-V and 440-V, 60 cycle, single phase AC and in 250-V and 550-V, DC.

YEAGER MANUFACTURING COMPANY

MARS, PENNSYLVANIA

SUPERIOR MINE SUPPLY COMPANY

Herbert L. Dunbar, President 9 Rosemont Avenue, Pittsburgh 16, Pa.

Sales Representatives in Pennsylvania, West Virginia and Ohio



DUST
PROOFING



DUST-PROOFING WITH

PERMATREAT COAL SPRAY

Builds Summer Sales



FREEZE
PROOFING



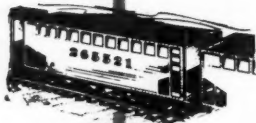
PERMANENT
ODORLESS TREATMENT



BETTER
STOKER FEED



CLEAN
HANDLING



LESS
WINDAGE LOSS

It's easier to sell coal in summer when it's dust-proofed with Permatreat Coal Spray. Customers get their winter supply in early without worrying about dust and grime. Even wash day is no hindrance to delivery.

Permatreat insures lasting protection when properly applied at the mine with modern, efficient spray equipment. It's not affected by summer, has no offensive odor. So let Permatreat help you keep coal on the move from mine to dealer and consumer throughout the summer months. Ask an Ashland field representative to help with your particular treating problems. Write today; no obligation.

ASHLAND OIL & REFINING COMPANY
Ashland, Kentucky



The McCarthy Coal Drill.

The McCarthy Coal Drill provides a new method of mining extra tonnage from workings where overburden expense prevents further stripping. With augers of 12, 16, 20, 24 and 30-inch diameters, as much as 75% of the coal can be removed to any reasonable depth. One operator recently drilled a 24-inch hole to a depth of 120 feet. The average drilling is to a depth of 60 feet.

The McCarthy Horizontal Drill, shown below, is especially adaptable to bench-type drilling because of its safety and maneuverability. It can easily be moved from hole to hole in the pit, and from pit to pit, always carrying its own tools. Put a McCarthy Rock Drill to work on your most difficult drilling job, then watch it break all performance records—especially where the going is really tough!



REPRESENTATIVES

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Denver 2, Colorado

Diamond Supply Company
Evansville, Indiana

Williams Tractor Company
3800 Crittenden Drive
Louisville, Kentucky

O. Philip & Company
(Export Agents)
19 Rector Street
New York 6, New York

W. W. Williams Company
835 Goodale Blvd.
Columbus 8, Ohio

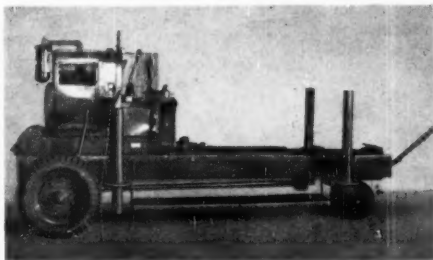
Capitol Equipment Company, Inc.
1134 Market Street
Harrisburg, Penna.

Superior Equipment & Supply Co.
1810 Fairmount Avenue
Philadelphia 30, Penna.

A. T. Green Machinery Co.
Box 9538
Pittsburgh 23, Penna.

Nixon Machinery Company
Carter at 13th Street
Chattanooga, Tenn.

Rich Equipment Company
Box 1260, Richmond, Va.
Box 353, Charleston 22, W. Va.
Clarksburg, W. Va.
Box 1369, Roanoke, Va.



The McCarthy Self-Propelled Horizontal Drill.

For ease of operation . . . for record-breaking performance, you can't top a McCarthy Vertical Drill. Using McCarthy equipment, workers have drilled 8-inch holes 100 feet deep—in only 40 minutes! The derrick is raised and lowered by hydraulic power, finger-tip controlled, and a 60 H.P. gasoline motor is part of the standard equipment. "All McCARTHY DRILLS can be equipped with electric motors."

Get the complete story on the rugged, powerful McCarthy Drills when you

**Visit us at the Coal Show
space 1002-1004-1101-1103**



The McCarthy Truck Mounted Vertical Drill.

THE SALEM TOOL COMPANY

763 SOUTH ELLSWORTH AVE., SALEM, OHIO, U.S.A.

Picture of Progress in Clearfield

● Builders are busy . . . equipment is arriving . . . final stages of construction have begun on Beckwith's new Clearfield, Pennsylvania sales and service center! Greater, up-to-the-minute shop facilities are being engineered into this modern structure . . . more parts storage space has been planned . . . all to provide better-than-ever service for Beckwith customers.

Watch for the grand opening of this new Clearfield center . . . meanwhile, remember Beckwith's temporary Clearfield address — 216 N. Third Street.

**LOOK FOR THE NEW
BECKWITH SIGN**



● Plenty of light from ample windows . . . plenty of space for all types of equipment servicing at this new, modern Clearfield, Pennsylvania headquarters for Beckwith Machinery Co. It won't be long before there'll be a "new day of service" for equipment owners in the Clearfield area

Means Picture of Improved
SERVICE TO YOU!



BECKWITH MACHINERY COMPANY

6550 Hamilton Ave. - PITTSBURGH - Phone MOntrorse 6900

BRANCHES

BRADFORD, PA.
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Phone 5-9635

BELMONT, OHIO
906 John St.
Phone BEthesda 5631



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LOADERS • MARLOW PUMPS
GONS, MOBILOADERS, FORCE-FEED
MARTIN TRAILERS • BRODERICK
AND BASCOM WIRE ROPE • CASE
TRACTORS, INDUSTRIAL ENGINES •
JAHN HEAVY DUTY TRAILERS

Memo to Mining Congress Visitors

*See Highway for every
mine equipment need!*



Lima Shovels, Cranes, Draglines are setting new production records on stripping operations everywhere. Photo taken at Fiore Coal Co., near Pleasant Hill.



This efficient equipment combination of an Allis-Chalmers HD-19 and Gar Wood Scraper is a familiar sight on leading strip jobs.

TODAY, more than ever before, efficient equipment holds the sure key to mining profits.

That's why it will pay you to make Highway your equipment headquarters . . . to consult with Highway engineers before investing in new machinery.

Highway sells leading lines of every type of new mine equipment . . . backs them with round-the-clock parts and repair service.

Or—if you wish to employ rental units, Highway can meet your every requirement. Every unit in the Highway rental department is of modern design—in top working condition. We do not rent "junkers" or "fuel hogs."

Yes, it will pay you to call your Highway representative — today!



4 Allis-Chalmers HD-19's work daily on Nard Engineering & Mining Company's operations near Oakdale. They push overburden, clean the face of the coal, build drainage ditches and roads . . . pull Gar Wood Scrapers . . . serve as scraper pushers.

Highway

**EQUIPMENT
COMPANY**

6465 Hamilton Ave.
Pittsburgh, Pa.

840 South 19th St.
Harrisburg, Pa.



Allis-Chalmers • Jaeger • Baker • Gar Wood •
Hough • Master • Thor • Wayne Crane • General
Motors Diesel Engines • Lima Shovels, Cranes, Draglines

"Eucls" CUT COSTS *for*

MORGAN MINES, INC.



Shown is a 20-ton Bottom-Dump Euclid Coal Hauler... 150 h.p. Diesel engine... tires 12.00 x 24 front, 21.00 x 24 drive and trailer wheels... top loaded speed 32.6 m.p.h.

Starting with only four "Eucls", Morgan Mines, Inc., now owns and operates 17 Euclid Bottom-Dump Coal Haulers of 20 ton capacity at open pit mines in southern Illinois and western Pennsylvania.

"We use 'Eucls' because they haul more coal from pit to tipples faster and at lowest cost per ton", says Mr. Harrison Eiteljorg, president of the company. "Our experience with Euclids has been so satisfactory that they are now standard hauling equipment at three of our operations and will be used at our new mine at Herrin, Illinois".

This comment is typical of many received from open pit operators who select Euclids for their off-the-road jobs. Economical performance under a wide range of operating conditions makes Euclids your best bet for low hauling costs.

THE EUCLID ROAD MACHINERY CO., Cleveland 17, Ohio

EUCLID





Photo taken in Southern Illinois coal fields by William Vandivert

Offhand you might suppose that this huge tube is a factory smokestack. But it's really a spare "spoon handle" for a giant shovel used in surface coal mining. This big boom carries a price tag of \$12,500—which is a lot of money for a spare part. Yet if one such boom should fail, it would take over eight weeks to build a new one—tying up for the entire period a shovel costing more than \$650,000!

Mechanized mining calls for immense capital expenditures. A medium-sized loading machine now costs about \$20,000, a 6-ton electric shuttle buggy about \$12,000, and some mobile cutting machines cost as much as \$28,000, while the building and equipment of a modern preparation plant is a million-dollar project. Some large ones built since the war have represented an outlay of as much as \$7,000,000 each!

Today the progressive coal industry is carrying on a billion-dollar mechanization program—designed to raise mine output of quality coal while keeping pace with the nation's increasing coal requirements.

Better tools and working conditions for coal miners are matched by improvements in living conditions.

Today, almost two-thirds—more than 260,000—of the nation's bituminous coal miners either rent from private landlords or own their own homes, and home ownership among miners generally is on the increase. This is good for families and their companies alike. It gives to the miner the greater satisfaction and security that come with living in a "home of his own," and it frees management and capital for the big job of getting maximum coal production at the lowest possible cost.

BITUMINOUS COAL
BITUMINOUS COAL INSTITUTE
 A DEPARTMENT OF NATIONAL COAL ASSOCIATION
 WASHINGTON, D. C.

BITUMINOUS COAL . . . LIGHTS THE WAY . . . FUELS THE FIRES . . . POWERS THE PROGRESS OF AMERICA

COAL MINING

Vol. XXVI

May, 1949

No. 4

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Coal Mining is indexed regularly by Engineering Index, Inc.

Our Creed: To promote mechanization in the Coal Mining Industry; to advance living conditions of mine employees.



Twenty years practical field experience. Specially engineered frictions. Dependable warehouse stocks . . . EFCO's combination for added hours of service on shovels, draglines, cranes, and tractors.

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HARRIS

PUMP AND SUPPLY COMPANY

Brady and Sidney Streets, Pittsburgh 3, Pennsylvania



HERE'S NEW!
GUARANTEED GEARS



No idle promise, this. It's an unqualified guarantee that the Pittsburgh ARMORED GEAR Line will give you longer life than you have ever thought possible . . . to lower your gear maintenance costs and increase production by reducing time-consuming shut-downs. Tell us your requirements.

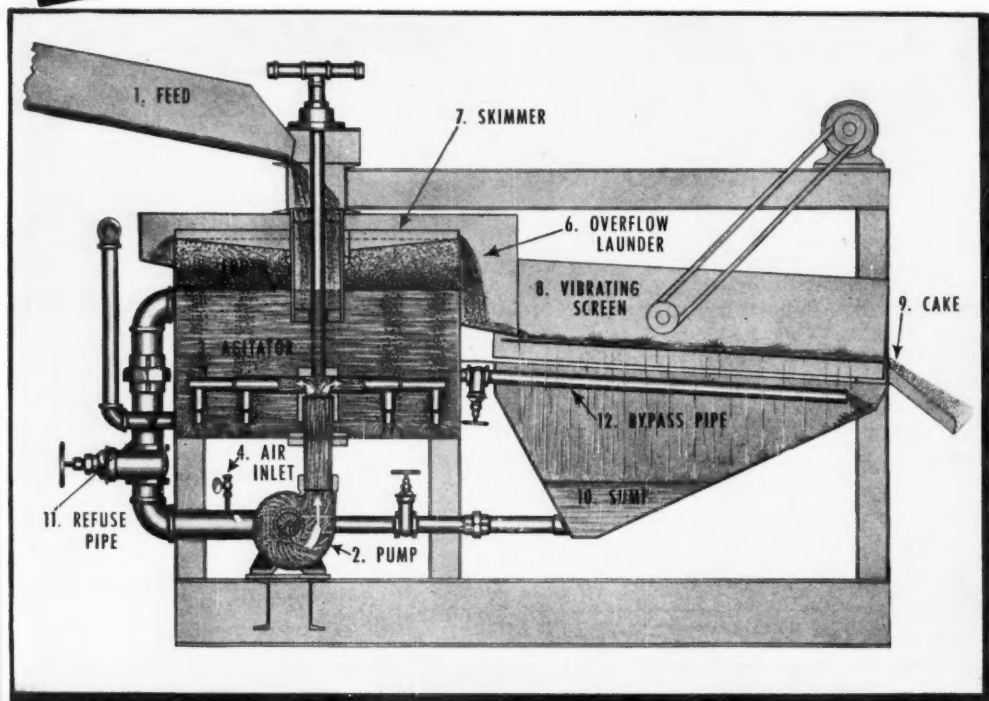
SEE THE PITTSBURGH GEAR DISTRIBUTOR NEAR YOU



PITTSBURGH GEAR
COMPANY | 27th & Smallman Streets
PITTSBURGH 22, PA.

QUALITY GEARS FOR OVER 30 YEARS

NEW...the R^{AND}S FROTH



Here's How You Recover Marketable Coal from Sludge Ordinarily Worthless . . . with the R and S Froth Flotation Hydrotator

1. After suitable conditioning, coal enters tank through Feed Chute and Feed Well.

2. Circulating Pump takes water from side of main tank and delivers it to tank bottom through...

3. Agitator, which distributes circulating water and coal uniformly over tank bottom, from where they rise to pump intake level.

4. Air is drawn into pump through a valve, is distributed

over bottom with water and coal. Coal rises with air bubble as...

5. Froth, which overflows into...

6. Overflow Launder, with aid of...

7. Skimmer, attached to rotating Feed Well and Agitator. Froth flows to...

8. Vibrating Screen, which "kills" froth and delivers it as...

9. Cake (low ash and dewatered).

Water and entrained high ash coal, together with excess reagent, pass screen to...

10. Sump, where they join pump circulation and are returned to main tank.

11. Refuse, with all excess water from feed, is discharged from tank bottom by adjustable tube which controls level of water below frothing zone.

12. Bypass pipe to provide sluicing water.

FLOTATION HYDROTATOR

- ★ Recovers marketable coal from sludge ordinarily worthless
- ★ Recovers coal without settling
- ★ Minimizes pollution of streams and rivers

The new R and S Froth Flotation Hydrotator cleans and separates fine coal from sludge heretofore considered of no commercial value.

It recovers coal without settling; yet the equipment occupies only a fraction of the space required by a thickener large enough to effect similar recovery by gravity. Froth is killed instantly and delivered in cake form.

Water is clarified and pollution of streams and rivers is minimized—important today in view of increasing government regulations on this point.

For more complete details on this new Roberts and Schaefer equipment, for competent counsel on your individual coal cleaning operations, get in touch with R and S engineers. They can help you determine your potential profit—and can show you how you can get it.

Your plant—modernized by R and S engineers—will better meet highly competitive conditions, will take profitable advantage of particular uses and demands for coal in the days to come.



ROBERTS and SCHAEFER CO.

130 North Wells Street, Chicago 6, Ill.

2801 Broadway Ave.
PITTSBURGH 16, PA.

P. O. Box 570
HUNTINGTON 10, W. VA.

FOR THE LAST WORD IN MODERN COAL PREPARATION, VISIT SPACE 1000 AT THE COAL SHOW
... see the RandS Froth Flotation Hydrotator in operation ... as well as the improved RandS Super-Airflow



MAKES MORE

FOR MORE MINES

than any other kind

The largest selling bits for use with mechanical coal cutting machines are Bowdill Bits. Such popularity is deserved by performance, long life and low cost operation in a growing list of mines throughout the world.

Made of special alloy steel and heat treated by the most modern methods to hardnesses best suited to your cutting conditions, Bowdill Bits are available in special shapes, cutting face contours and clearance angles to fit your needs.

A nearby Bowdill Service Man or Representative will be pleased to give you further information. Write for our latest bulletins on Bowdill Mining products.

BOWDILL 

COAL CUTTING EQUIPMENT
CANTON OHIO

APPROVED

FOR COAL STRIPPING!

TYPE "HS"

HENDRIX
Lightweight **DRAGLINE
BUCKETS**

$\frac{3}{8}$ to 40 Cu. Yds.

With or Without
Perforations



Many coal stripping operators have approved the Hendrix "HS" Bucket because its patented features allow us to offer you a bucket lighter in weight than similar buckets, yet possessing sufficient stamina, ruggedness, and wear-resistant qualities to give rugged long-lasting service to coal stripping operators. The ARCH of the "HS" Bucket (commonly a weak point on other dragline buckets) is of rugged box-section construction and is failure-proof. Renewable cast steel manganese shoes for bottom runners and corner plates result in increased production through less loss of time while on the job.

- ★ 20% to 40% lighter than other buckets, type for type.
- ★ All welded construction for greater strength and durability.
- ★ Manganese Steel Chains, fittings, and reversible tooth points.
- ★ Full payload every trip with perfect balance.
- ★ 12% Cast Manganese Steel lips with tooth bases cast integrally.
- ★ Failure-proof ARCH of rugged box-section construction.

Write for descriptive literature or ask your dealer.

HENDRIX MANUFACTURING COMPANY
MANSFIELD INCORPORATED LOUISIANA

PERFECTION

the answer—

WHEN YOU WANT TO HAUL IN A **BIG** WAY

PERFECTION has the Body and Hoist combinations that will give you "full rein"
--no matter how ambitious your hauling plans may be.

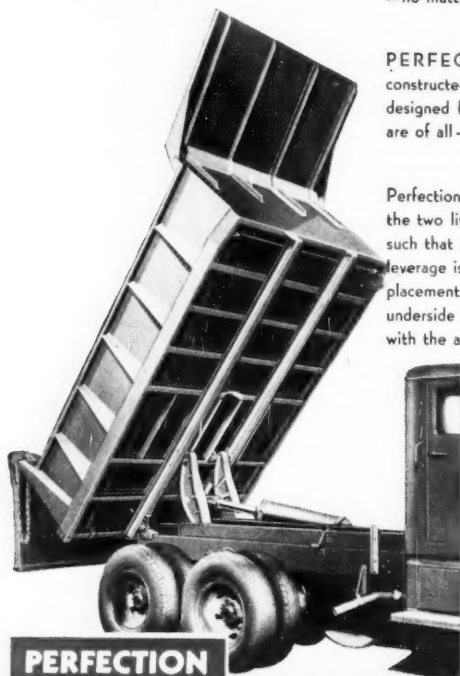
SUPER BODIES

PERFECTION "Series 300" Heavy-Duty Steel Dump Bodies are sturdily constructed of 8 gauge alloy sheet steel for greatest strength. They are especially designed for the most rigorous service--heavily braced at all points of stress --and are of all-welded construction.

SUPER HOISTS

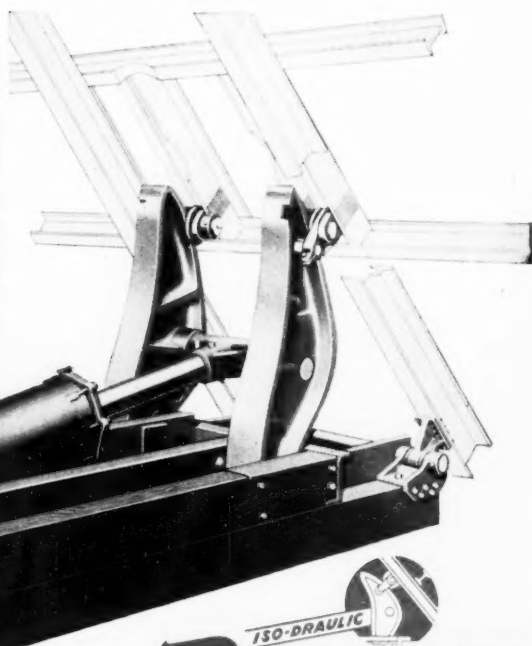
Perfection's remarkably efficient **Iso-Draulic* ROLL-A-LIFT. The upper surfaces of the two lift arms engage two pressure rollers mounted on the body. The design is such that at the beginning of the stroke, where the lift is heaviest, the greatest leverage is provided. The result is tremendous capacity in relation to the piston displacement of this hoist. Two keeper-rollers (patents applied for) travel along the underside of the lift arm flanges, keeping the pressure rollers in constant contact with the arms regardless of body position. Write for complete information.

**Uniform pressure*



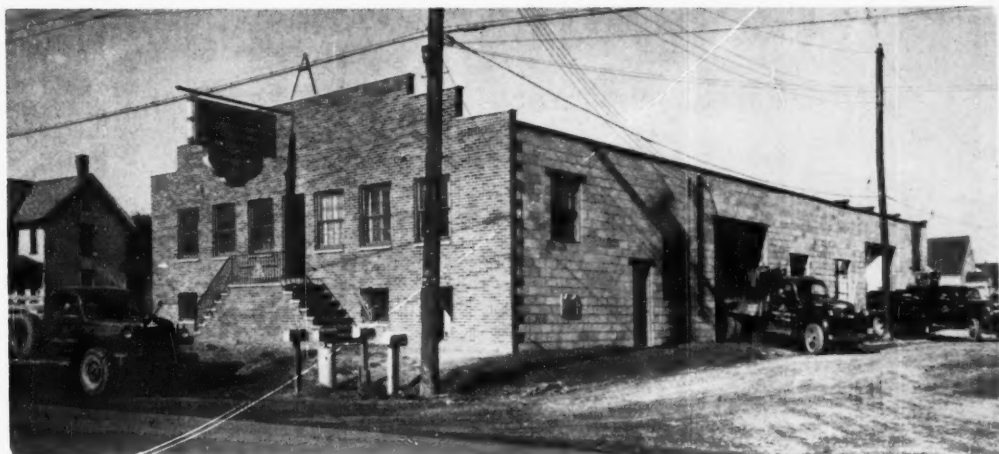
**PERFECTION
SERIES 300
HEAVY DUTY
BODIES**

**PERFECTION
NO. 827
HEAVY DUTY
HOIST**



ISO-DRAULIC
ROLL-A-LIFT

**THE PERFECTION STEEL BODY CO.
GALION, OHIO, U.S.A.**



Strip Mine Blast Hole Drilling

Well prepared overburden in strip mining saves money.

Our trained blast hole drilling and blasting crews will properly drill and shoot most any type of overburden, in the quickest possible time, to give you more production at lower cost.

We operate in eastern Ohio, western Pennsylvania and northern West Virginia.

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1545 Waynesburg Rd. S.E.
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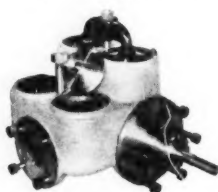
FLOOD CITY

Standard for New or Replacement

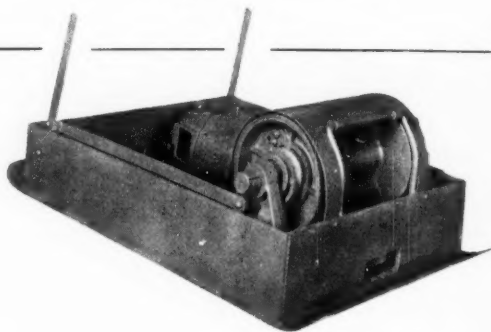
JUNIOR CAR SPOTTING HOIST

An intermediate size to handle many jobs. Uses the same non-reversible worm gear unit as in larger FLOOD CITY HOISTS. Drum and clutch are mounted on a reducer output shaft. Rating, 4000 lb. rope pull at 35 ft. per min., (safety factor, 3:1). Thoroughly guarded, has powerful brake mechanism and jaw clutch. Overall dimensions, 60" long, 36 $\frac{1}{4}$ " wide, 13" high. Weight, minus rope, 1040 lbs. Rope capacity 1150' - 3 $\frac{3}{8}$ ", 630' - 1 $\frac{1}{2}$ " or 400' - 5 $\frac{3}{8}$ ". Write for specific information on use of this hoist in your mine.

This FLOOD CITY unit uses the reversible water end pictured below . . . an acid resistant construction, heavily constructed and carefully finished to allow free flow of water. The plunger pump features easy access to parts for service. All moving parts are self-lubricated. Shielded piston rod keeps water off power frame. Made in 5 x 5 size . . . 50 gallons per minute, 2" suction and 2" discharge. Write for literature on this and other FLOOD CITY mine operating equipment.

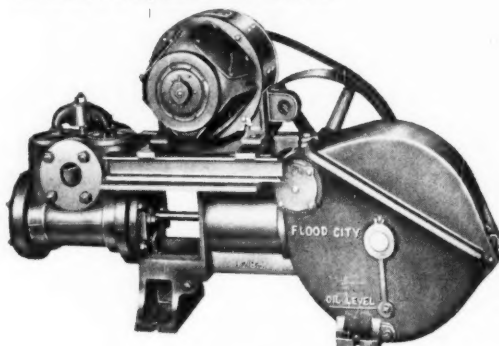


REVERSIBLE
WATER END



*A Complete Line of
Operating Equipment*
FOR LARGE OR SMALL MINES

PLUNGER PUMP



FLOOD CITY BRASS & ELECTRIC CO.

Messenger and Elder Sts.

JOHNSTOWN, PA.

VISIT OUR BOOTH NO.
804 AT THE 1949 COAL
CONVENTION IN
CLEVELAND.

Branch Office:

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CHARLESTON, W. VA.



GETTING DOWN
WHERE IT COUNTS
WITH A

BAY CITY



BAY CITY



SHOVELS • CRANES • HOES • DRAGLINES • CLAMSHELLS

BAY CITY SHOVELS INC., BAY CITY, MICHIGAN

See your nearest Bay City dealer for excavating and material handling equipment in sizes from $\frac{3}{4}$ to $1\frac{1}{4}$ yard with crane rating up to 20 tons. Both crawler and pneumatic tire mountings.

Fast, economical stripping is important in coal field operations—that's why owners and operators like the rugged, dependable BAY CITY Model 65. With a big $1\frac{1}{4}$ yard dipper, 25' boom, 20' straddle type sticks, and having a maximum dumping radius of 30' 4", the Model 65 gets rid of overburden in a hurry.

It's a shovel with all the desirable features . . . powerful one-piece chain crowd . . . oversized clutches and brakes . . . smooth, quiet operation. The Model "65" is also used to speed loading operations. If you want the best in a $1\frac{1}{4}$ yard machine, your buy is the BAY CITY 65. Write, wire, phone for complete information.

See the **JOY** Exhibit

AT THE COAL SHOW

The latest developments in machinery for the bituminous and anthracite coal mining industries

The JOY JCM
CONTINUOUS
MINER

10-SC SHUTTLE CAR
... a heavy duty vehicle for
high-capacity gathering

TIMBER SETTER
with self-contained timber
supply, and freely rotating
boom

SAC-91 STOPER
for roof-pinning, and a new
SAFETY DRILL

WK-82 MINE CAR
COMPRESSOR
mounted on rubber tires for
maximum mobility

NEW!

POST-PULLER
with a scraper blade for main-
taining shuttle car roadways

ALSO ON EXHIBIT:- The standard line of JOY Loaders,

Shuttle Cars, Coal Cutters, Belt Conveyors, Mine Fans, Carpullers and Coal Drills . . . a complete line of "Silver Streak" cadmium-plated Rock Drills . . . a display of new and used "Sulmet" tungsten-carbide tipped Coal Cutter and Auger Drill Bits, with performance data.

For Modern Mining Equipment, Consult a Joy Engineer



JOY MANUFACTURING COMPANY

GENERAL OFFICES: HENRY W. OLIVER BUILDING • PITTSBURGH 22, PA.

IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LIMITED, GALT, ONTARIO



Central Preparation plant, Dunham, Kentucky.

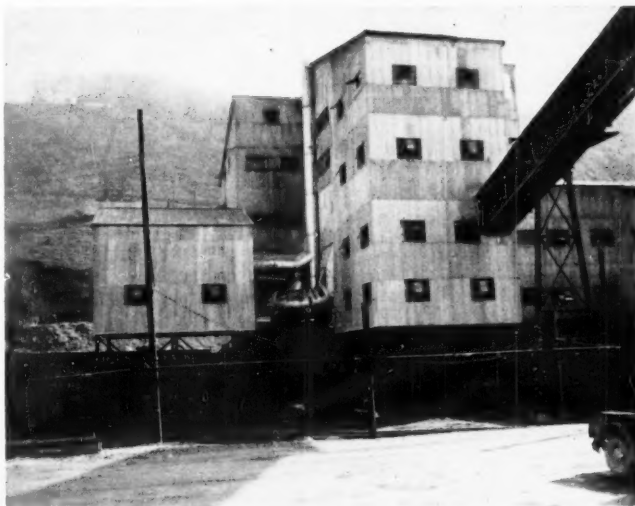
Operations Of The Consolidation Coal Company (Ky.)

A Fifteen-Page

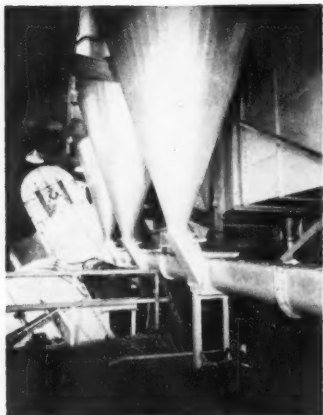
Picture Feature

TECHNOLOGY in industry is bringing about a change in the type of community we live in. Labor is organizing into unions that are becoming powerful economic organizations and laboristic society is succeeding the capitalistic. How this shift or power is going to affect the operation of our institutions of freedom is an important question. Basic problems confronting our present free society are the development of institutions, the attitudes, the thinking of men of different beliefs and different interests which enable men to preserve good will to handle their affairs with a minimum of conflict.

Thoughtful men, far back in history, sought to give expression to basic principles that would enable people to live and work together in peace and harmony. There is still evidence of inability to accomplish



Heat drier installation at the Central Preparation Plant, Dunham, Ky.



Heat driers at the drier plant,
Dunham, Ky.



Showing the difference between dried
and undried coal at the Central Prep-
aration Plant.

that goal. There is evidence that man is not doing as well as he could with what he has.

Efficient operation of machines is in the interest of the worker, the employer and the Nation. All industry must be efficient or maximum advantages for workers and investors cannot be sustained. Reward accrues to those who help make a quality product for the customer, thus creating and perpetuating profitable enterprise.

Today industry differs from that which existed when simplicity in our economy did not require large capital and manpower as is now directed to efficient production of the world's broad demands. Today there must be team work between the employee and the employer and there must be order on the team. If people of
(Story Continued on Page 23)



View of Quonset building at the Marshall's branch portal
of Mine 204, near Jenkins.



Side view of the Quonset buildings at the portal of Mine
204. This mine is in Pike County.



Close up side view of the Quonset buildings at
Marshall's Branch.



The store and quick snack restaurant at
Mine 204 portal.



View of the quick snack restaurant at Mine 204.



Another view of the restaurant at Mine 204.



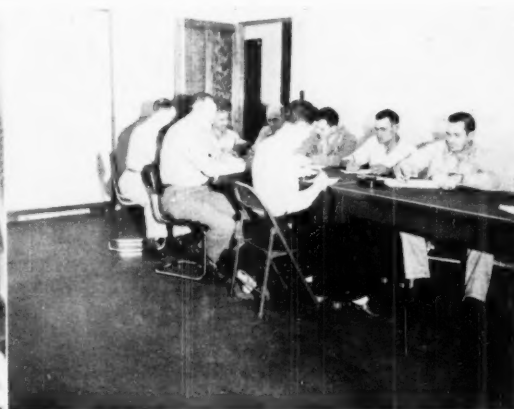
Chief Clerks Office and intercommunication system located in the Quonset buildings at portal of Mine 204.



Supply Clerks Office located in Quonset buildings at portal of Mine 204.



Office of clerical help at the portal of Mine 204.



Part of mine assembly room at portal of Mine 204.



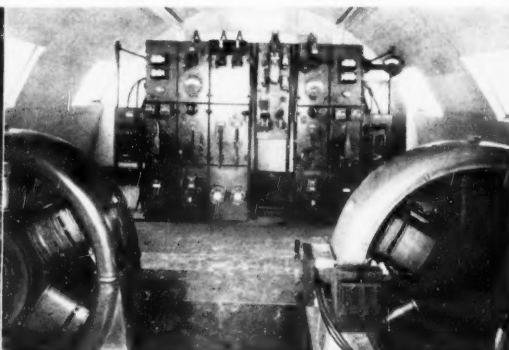
Toilet room at the superintendents quarters at Mine 204.



Toilet room for mine foremen at portal of Mine 204.



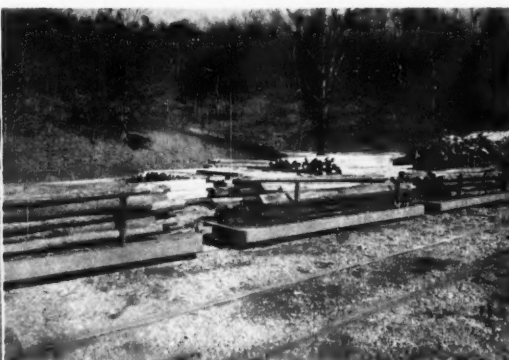
Quonset Sub-Station at portal of Mine 204.



Inside the Quonset Sub-Station at Mine 204.



Twelve ton, eight wheel all-steel mine cars hauling contour mined coal at the portal of Mine 204.



Flat supply cars loaded with mine timbers and track supplies at the portal of Mine 204.

different beliefs and attitudes must work together, and success of individual effort is directly related to proper integration of that effort with that of many other fellow workers, the relation of one worker with another becomes paramount. We are living in a society in which the belief must prevail that prosperity is the end of goal of the free, voluntary and co-operative activities of the individual in industry. It is a distinct and important part of the philosophy of freedom that uniformity of preference or uniformity of objectives is not necessary to friendly and successful relations. Men of widely differing preferences and objectives can live together harmoniously and co-operate effectively in meeting common problems.

The Consolidation Coal Company (Ky.) is one of the progressive coal producers which is bringing working conditions of its employees up to present day mechanical advances by installing the latest types of labor saving machinery.

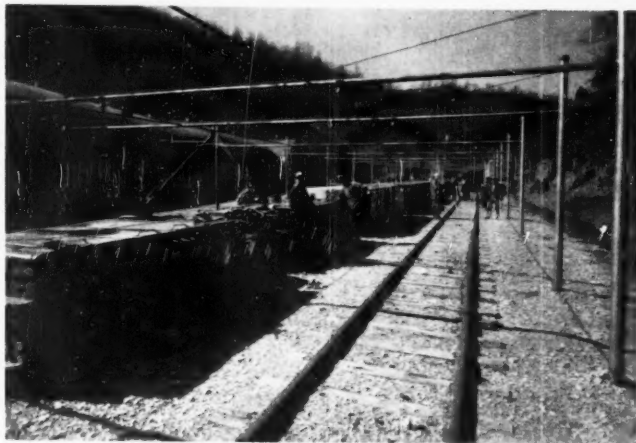
Lying in southeastern Kentucky, these mines were opened in a comparatively unsettled territory. As late as 1930 there were no automobile roads into the area. Despite adverse natural conditions the living and working surrounding of its employees have been bettered to a point where they now rank among the best in the industry, and further improve-

ments are being made as fast as it humanly possible to make them.

The seams of coal being mined at these operations are the Elkhorn Number 3 running from 50 to 60 inches thick at the Winters Mine; 40 to 50 inches at the new Hendrix mine; from 40 to 60 inches thick at the 214 Mine; 70 to 80 inches thick at the 207 Mine; 50 to 80 inches thick at the 204 Mine, and 30 to 36 inches thick at the Hill Mine. The High Split seam runs 30 to 60 inches thick at the Clover Splint Mine and the Millers Creek seam runs from 30 to 36 inches thick in Mine 155.

Pictures of this story continue to page 33.

Next issue will carry a picture story about the Nemacolin-Pennsylvania Mine of the Buckeye Coal Co.



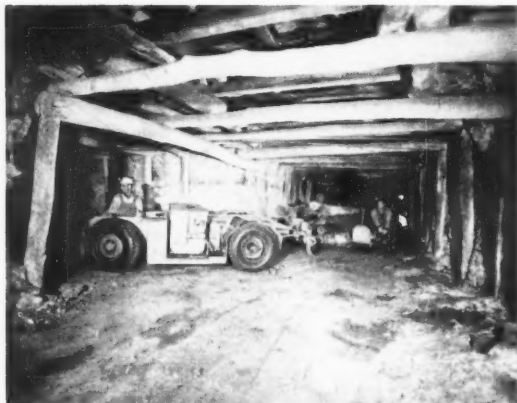
Mantrip train at the portal of Mine 204.



Trike and trailer crew loading mine timbers for hauling into the Hill mine, Myra, Ky.



Trike pulling a load of timber into the mine.



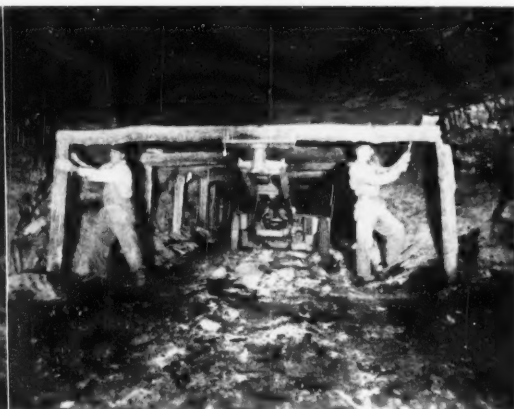
Rubber tired tractor pulling mine timbers to working area.



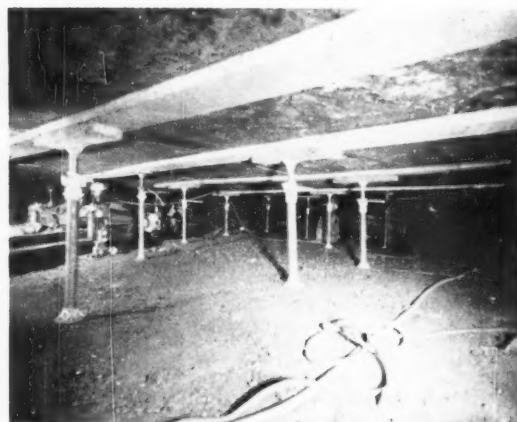
Saw on timbering machine cutting timber.



Back view of timbering machine.



Front view of timbering machine.



Power Duckbill and shortwall cutting machine at Mine 155,
Van Lear, Ky.



Close up of the power Duckbill in Mine 155.



Hand drilling coal at Mine 207.



Fire fighting equipment at Mine 207.



Testing for gas with flame proof lamp at Mine 155.



Pulling down slate at Mine 214.



Movable timber jack at Hill mine.



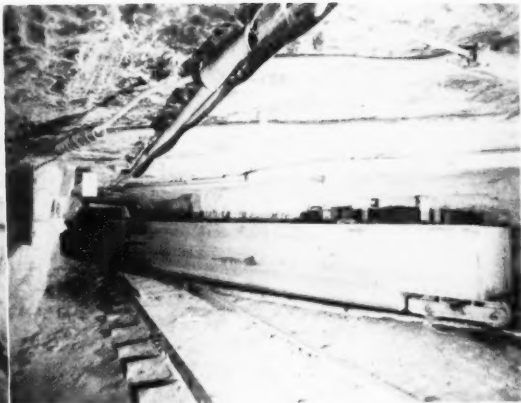
Joy 14 BU loading machine loading into shuttle car at Mine 204.



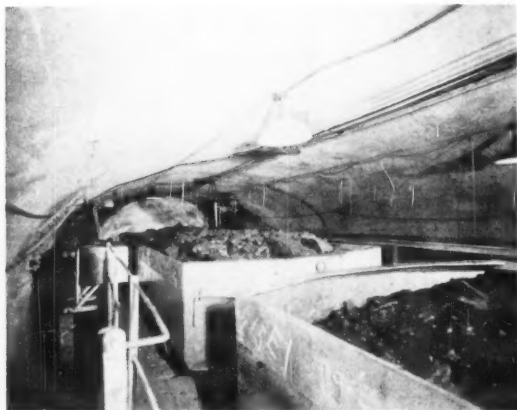
Shuttle car hauling load in Mine 204.



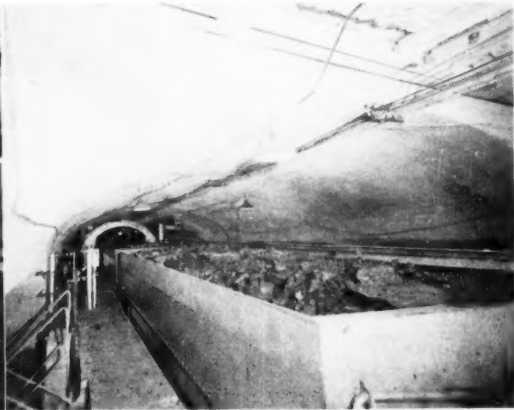
Conveyor belt discharging into new 12 ton mine car, Mine 204.



Overall view of the new 12 ton mine car.



Mine cars entering rotary dump at Mine 207.



Another view of the 12 ton mine cars entering rotary dump at Mine 207.



Maintaining power feed line at Mine 214.



Bolted roof area in Mine 214.



Distributing rock dust at Mine 207.



Another view of rockdusting at Mine 207.



Installing trolley guard in Mine 135



Dispatchers office Mine 207.



Safety Record Display at Mine 207.



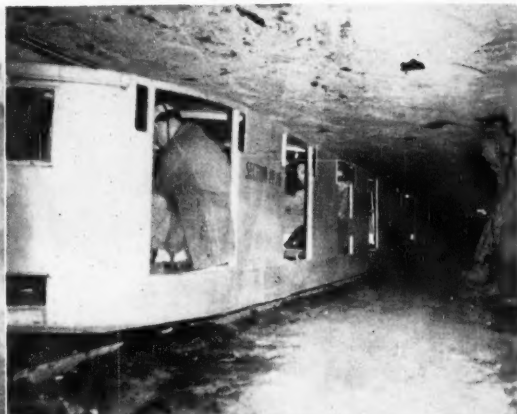
Lunchtime underground at Mine 207.



Lunching place after men have gone back to work—note cleanliness.



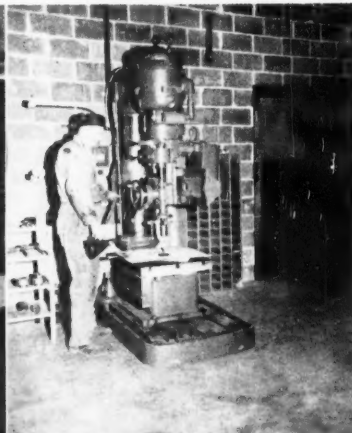
Right way to place cars at intersection Mine 204.



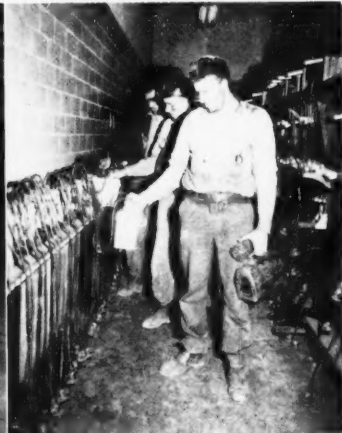
Covered mantrip cars underground at Mine 204.



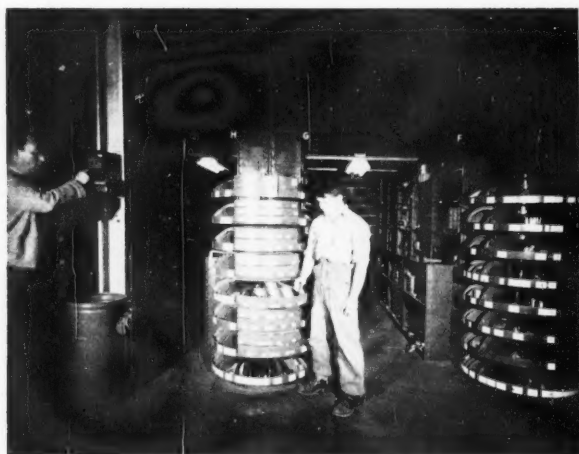
William Stapleton, Superintendent,
Mine 204.



Drill press in repair shop, portal of
Mine 204.



An aisle in lamp room,
Mine 204.



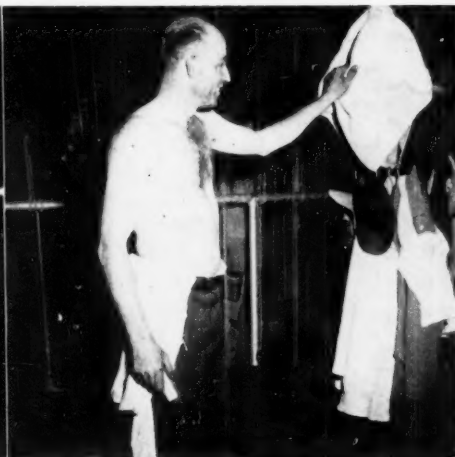
Steel rotobins at portal of Mine 204.



An aisle of supply bins at portal of Mine 204.



Change room in bath house at portal of Mine 204.



Close up of miners clothes basket in change room at Mine 204.



Two of the 15 shower heads in wash room at portal of Mine 204.



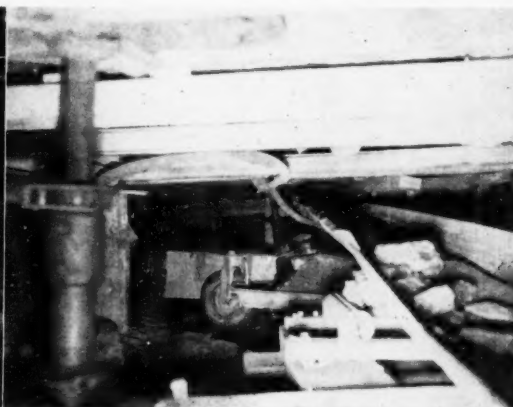
Shower room at portal of Mine 204.



Foot powder dispenser at portal of Mine 204.



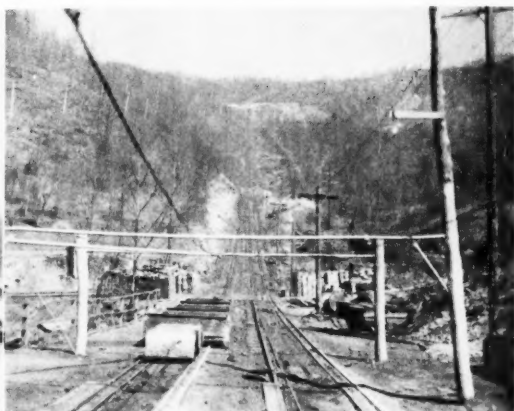
Trike pulling timbers passing under shaker conveyor.



Side view of the Trike passing under shaker conveyor.



Mine Office, Clover Splint Mine, Closplint, Ky.



Double track incline, showing mine cars and barney, Clover Splint Mine.



Tramway and trestle, Winters mine, Farraday, Ky.



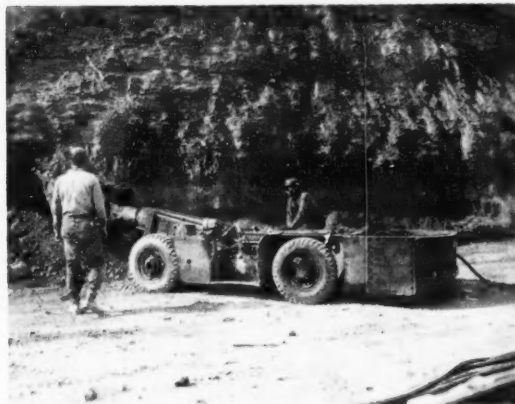
Rotary dump for slate disposal.



Opening for contour mining at Mine 204.



Initial set up for contour mining at 204 Mine.



Sullival 11 RU cutting machine making first cut in contour mining at Mine 204.



Laying track for hauling coal produced by contour mining at Mine 204.



First Aid Meet at Pikeville, Ky.



Belt conveyor discharging into motor truck in contour mining.



Tippie at Mine 155, Van Lear, Ky.



House built by one of the miners in Jenkins, Ky.



Man and supply portal at Mine 214, McRoberts, Ky.

Do You Know . . .

Cooler summer clothes may come in the future from using man-made seaweed.

The synthetic seaweed fibres have been used to weave very light, delicate woolen and cotton materials. This new process was described to the American Chemical Society meeting here by Drs. J. David Reid and George C. Daul of the U. S. Department of Agriculture's Southern Regional Laboratory in New Orleans.

Seaweed-like fibers are prepared from wood, cotton or other forms of cellulose. They are spun in much the same way as rayon or nylon. These fibers are woven into a fabric and later washed out by soapy water to produce fluffy and porous materials.

It also is possible to weave the man-made seaweed fibers into special patterns which give unique, novelty fabrics when dissolved out.

Fluffier fabrics made by this dissolving-out method could be used for such things as summer suits, men's undershirts, ladies' blouses or lace curtains.



Powder and cap house with barricades at portal of Mine 204.

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Nationally Known Lines

**MINING EQUIPMENT —
ELECTRICAL & MINE SUPPLIES**

We Can Supply Your Requirements

~~~~~ **SEND US YOUR INQUIRIES** ~~~~~

# ACME MACHIN

## *Announces a New* **MINE COMPRESSOR**

**SELF PROPELLED**

**RUBBER TIRED**

**ONE MAN  
OPERATION**



The new ACME 105 SPR offers the very latest design and 10 important *mine tested* features that give you plus values in operation, performance and safety.

1. 105 CFM at 100 pounds pressure.
2. Mechanical un-loader system.
3. 30" overall height.
4. Large cable reel capacity—350'  $\pm$  4 cable.
5. Four speeds forward and reverse.
6. Top speed 4 mph.
7. Full forced feed lubrication.
8. Poppet Type intake valves.
9. Long life automatic disc discharge valves.
10. Hydraulic brakes.



Acme can make prompt delivery of your compressor needs regardless of size or mountings—Write, Wire or Phone.

The Acme Model 105H Rubber Tired Compressor delivers 105 CFM at 100 pounds pressure and is designed for 24 hours around the clock drilling — 30" Overall Height — 6" Ground Clearance.

# WILLIAMSON, W.



# ERY COMPANY



## UP Holes— *The Easy Way*

**New Cleveland Stoper Does It For You**

**No Lifting—The Machine Does  
It For You—One Man Operation  
—The Easy Way**

*Are You Interested in Roof Support?*

**The new Cleveland Short Stoper offers you a reliable way to drill your bolt holes and drive your bolts with the same machine.**

*Do You Shoot Overcast?*

**Drill your holes the easy way**

*Do You Shoot Boom Holes?*

**Do it the easy way**

*Do You Take Top?*

**Do it the easy way**

*How About Wire Hanger Holes?*

**One Man—The easy way**

### *The Perfect Team—*

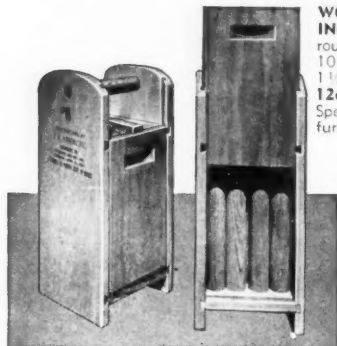
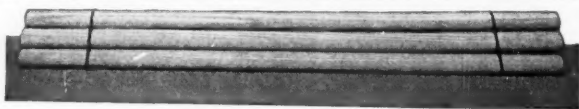
**ACME COMPRESSORS  
& CLEVELAND STOPERS**

*Choose from any combination that fits your  
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**Compressors from 60 cu. ft. up—Rubber  
or Track — Self Propel or Tagalong —  
Stoppers from 23" overall to 58½"  
overall**

**Phone, Wire, or Write for Free Demonstration.  
We Will Ship from Stock.**

# VA., PHONE: 1854



**WOOD TAMPING POLES FOR TAMPING EXPLOSIVE SHOTS:** Poles are round made of hardwoods, lengths to 10 ft. Price per lineal ft. 1" dia. 6c., 1 1/4" dia. 9c., 1 1/2" dia. 10c., 1 3/4" dia. 12c., 1 1/2" dia. 14c., 1 3/4" dia. 20c. Special diameters and lengths can be furnished.

**EXPLOSIVE BOXES:** Made entirely of wood having no metal parts, tongue-grooved and dovetailed construction with automatic lock using a rubber band for a spring, treated with paraffin to make moisture resistant. "Approved by the Pennsylvania Department of Mines." Sizes as listed based on 1 1/4" x 8" sticks.

|                      |         |      |                               |         |      |
|----------------------|---------|------|-------------------------------|---------|------|
| No. 9 Powder Box...  | \$ 2.05 | Each | No. 50 Powder Box...          | \$ 6.40 | Each |
| No. 12 Powder Box... | \$ 2.40 | "    | No. 72 Powder Box...          | \$ 7.50 | "    |
| No. 16 Powder Box... | \$ 2.85 | "    | No. 90 Powder Box...          | \$ 8.40 | "    |
| No. 20 Powder Box... | \$ 3.10 | "    | No. 6 Cap Box...              | \$ 1.70 | "    |
| No. 25 Powder Box... | \$ 4.20 | "    | Sizes 2 1/4" x 3" x 6" Inside |         |      |
| No. 36 Powder Box... | \$ 5.30 | "    | No. 8 Cap Box...              | \$ 1.70 | "    |
|                      |         |      | Sizes 2" x 2 1/4" x 8" Inside |         |      |

The above boxes are rigid and non-conductive.

**J. V. Hammond Company**

**Spangler, Pennsylvania**

"WE LOOK INTO THE EARTH"



### CORE DRILLING

- Coal Property Testing
- Pre-Grouting Mine Shafts
- Mine Drainage Bore Holes
- Large Diameter Holes for Ventilation & Escapeways

**PENNSYLVANIA DRILLING CO.**  
PITTSBURGH 20, PA.



### "SUPERIOR" COUPLING LINKS

Drop Forged, Electric Welded, Fire Welded  
A "Superior" line of Mine Car Couplings of all sizes—  
various types — All sizes, 7/8 in. & larger.  
Shackles — Cutter Bits — Bit Steel

**PITTSBURGH KNIFE & FORGE CO.**  
1421 Reedsdale St., Pittsburgh (12), Pa.

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### Patented Mine Equipment

- Automatic Car Stops and Feeders
- Brass and Iron Castings
- Cages—all kinds for all purposes
- Fans—all sizes to meet all conditions
- Hoists Skip and Skip Loading Equipment for all conditions
- Hoists—steam and electric
- Hoist sheaves with hard steel renewable wearing rings
- Pumping machinery
- Lorries for coal and slate
- Slate Dumping Cars

We manufacture a full line of safety and  
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Mine Supply Company**  
Connellsville Pennsylvania

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DALY'S IMPROVED COMBINATION MINE CHECK  
The Only Satisfactory Check on the Market Today  
**DALY TICKET CO., Collinsville, Ill.**

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DRILLING  
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BITUMINOUS COAL LANDS  
TESTED... SATISFACTORY  
CORES GUARANTEED

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Punxsutawney, Pa. Call 382



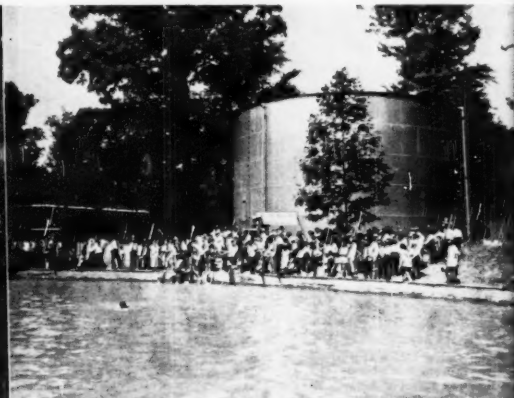
Family First Aid Training group at the Clover Splint Mine.



Miners First Aid Training at Van Lear, Ky.



Jenkins Independent School District High School Band,  
Jenkins, Ky.



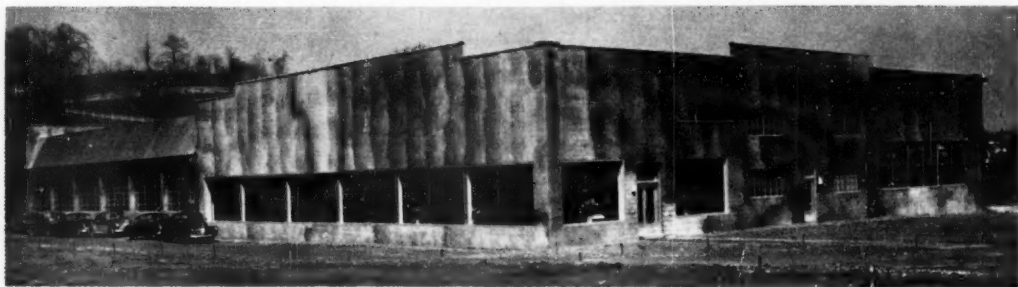
Kiwanis Swimming Pool, Jenkins, Ky.



Modern Ranch type house in Jenkins, Ky.



Another Ranch type house with all glass side in living room  
Jenkins, Ky.



Overall view of the new building.

## Rish Equipment Company Opens New Branch Office In Clarksburg, West Virginia

A new Clarksburg, West Virginia Branch Office of the Rish Equipment Company was dedicated on April 2 by a gala Open House for its customers and friends. This branch office is located on U. S. route 50, East of Clarksburg, near the town of Bridgeport. Showing of the new quarters, and the various new equipment handled, started at 10 a.m. and continued until 6:30 p.m. Cocktails and a buffet supper were served, followed by a long and lively floor show.

The dedication was attended by a continuous flow of stripping and deep coal mining men and by construction men from the tri-state area of West Virginia, Pennsylvania and Maryland.

The Rish Equipment Company now has offices at Bluefield, Charleston, and Clarksburg, West Virginia, Richmond and Roanoke, Virginia, and Cincinnati, Ohio. The Rish



Dorothy N. Hall, the pretty blonde receptionist.

Equipment Company is handling sales and services for the following manufacturers of mining and contracting machinery:

J. D. Adams Manufacturing Co.  
All-Purpose Spreader Co.  
American Saw Mill Machinery Co.  
Barber-Greene Co.  
Blaw-Knox Co.  
Brooks Equipment and Mfg. Co.  
Wm. Bros Boiler and Mfg. Co.  
Bucyrus-Erie Co.  
Buda Co.  
Construction Machinery Co.  
Henry Disston and Sons  
Dorsey Trailers  
Euclid Road Machinery Co.  
Flink Spreader Co.  
Gorman-Rupp Co.  
The Heil Co.  
Homestead Valve Mfg. Co.  
Frank G. Hough Co.  
Hughes-Keenan Co.  
Hendrix Manufacturing Co.

(Continued on Page 37)



Office of the clerical help.



Office of the Assistant Manager, Mr. P. A. Stanton.



Mr. J. P. Mullen, Manager.



Mr. P. A. Stanton, middle, conversing with two of the guests.



Office of the parts service department.



Parts bins in the parts service department.

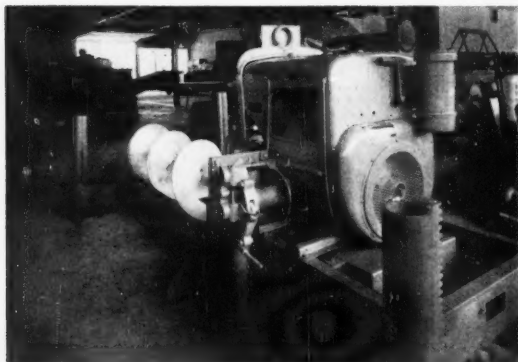


The Diesel engine laboratory.

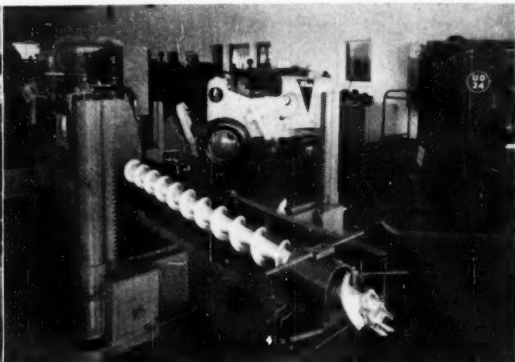


The clerical service staff.





The McCarthy Coal Auger, used in highwall mining at strip mines, on display in the show room.



The McCarthy, strip mine shot hole drill on display in the show room.



Road Graders on display in the storage yard.



Cummins Diesel Power unit in storage yard.



Stock of coal auger for the McCarthy Coal Auger.

C. F. Schroeder, Vice President, Drott Mfg. Co.,  
telling a Swedish story at the banquet.



Ingersoll-Rand Co.  
 International Harvester Co.  
 Isaacson Iron Works  
 Master Vibrator Co.  
 McCaffrey-Rudomatic Tagline Corp.  
 Meili-Blumberg Corp.  
 Ottawa Steel Products Co.  
 Herman Nelson Corp.  
 O. K. Clutch and Machine Co.  
 Pacific Car and Foundry Co.  
 Quaker Rubber Co.  
 "Quick-Way" Truck Shovel Co.  
 Ready Power Co.  
 W. A. Riddell Corp.  
 Rosco Manufacturing Co.  
 Salem Tool Co.  
 Skilsaw, Inc.  
 Smith Engineering Works  
 Superior Equipment Co.  
 Warner and Swasey Co.  
 Gradall Division  
 Wayne Motor Sweeper Co.  
 Winslow Scale Works  
 Wire Rope Corp. of America



A section of the guest room in which the banquet was held.

## ... DISCO COMPANY BUILDS WORLD'S LARGEST PLANT ...

The world's largest plant for producing smokeless solid fuel from bituminous coal by the low temperature carbonization process, was placed in operation.

Built by the Disco Company, a subsidiary of Pittsburgh Consolidation Coal Company, and located 19 miles west of Pittsburgh, the new plant will turn out, at capacity, from 250,000 to 300,000 tons annually.

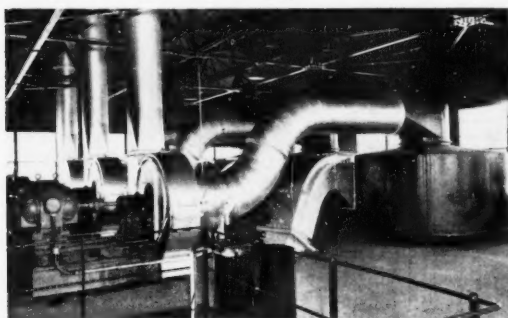
The product of this new plant is known as Disco smokeless solid fuel and is made for use in hand-fired furnaces, stoves, grates, and fireplaces. It is processed from specially pre-

pared bituminous coal, from which the tar or smoke producing substance is removed by distillation during the carbonizing process. The product is prepared in two uniform sizes, furnace and stove. The company states that "Disco" is a lightweight, highly reactive fuel, which is easily ignited but will hold fire for long period of time when desired.

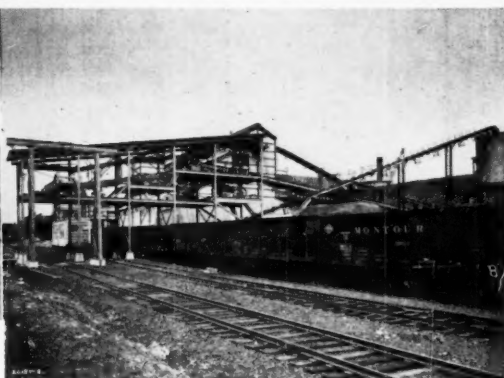
Construction of the large coal processing plant was started in the summer of 1947 and, according to the company, it will be at full capacity production in ample time for the 1949-1950 heating season.

Among those who witnessed the opening of the plant here yesterday was David L. Lawrence, mayor of the City of Pittsburgh, and more than 100 other city and county officials and business, labor, and civic leaders. Mayor Lawrence said:

"This new plant represents a distinct advance in the preparation of a satisfactory smokeless solid fuel for home heating purposes. The Pittsburgh district is fortunate to get the first commercial-size plant of this type for the conversion of bituminous coal into a tailor-made and smokeless domestic fuel."



On the top level of the heat drier building showing, from left to right, the motors, blowers and tops of the cyclones. The vertical tubes are exhaust stacks for the waste heating gases and moisture. The driers themselves are long, vertical tubes, located beneath this deck. A blast of hot gases dries the coal and the cyclones then separate the coal from the waste gases and moisture. Purpose of the drying operation is to reduce the moisture acquired in coal washing (or from the atmosphere during storage on the stock pile) and provide the processing plant with a uniform charge material.



After cooling on the mechanical wharf, the Disco product is brought by conveyor to the screen house and loading boom, shown above. Here the fuel is blended and sized for market. The ascending conveyor shown at the right removes the degradation breeze to a storage silo, from which it is conveyed to the process building for use in recirculating through the process.



D. C. Jones, Director, Mineral Industrial Extension Service, reading his paper "The Electro-Mechanical Maintenance Association. Its purpose and progress."



H. C. Howarth, Supervisor, Experimental Mine, U. S. Bureau of Mines, gave a paper "Recent Studies in the Control of Coal Mine Fires."



George Trevorow, General Manager of the Consumers Mining Company and President of the Pittsburgh Coal Mining Institute addressing the gathering.

*Friday evening, March 4, the Pittsburgh Coal Mining Institute met in the Auditorium of the Mellon Institute of Industrial Research.*

*Mechanization of coal mines, bringing about a need for better maintenance of mining equipment, was the subject of a paper by Mr. D. C. Jones, Director, Mineral Industries Extension Services, State College, Pennsylvania entitled*

## The Organization and Development of the Mining Electro-Mechanical Maintenance Association

**I**N this day of multiple organizations, the advent of a new one is hardly the signal for prolonged cheering. The natural reaction of those persons who are members of one or more organizations having a similar purpose will be—"Just another meeting to attend." The invitation to present a report to your institute on the birth and development of *The Mining Electro-Mechanical Maintenance Association* is therefore most encouraging for it indicates an interest in an educational problem of the coal mining industry that will require the concerted efforts of many for its solution.

The idea of an institute or association to promote better maintenance of mining equipment developed in December, 1947 during an informal "bull" session among members of the United States Bureau of Mines, the Pennsylvania Department of Mines, and Mineral Industries Extension Services of The Pennsylvania State College. All of those present were familiar with the problems of mine equipment utilization and maintenance. Several were in a position to judge the present status of

mine maintenance, and also to visualize what the mine maintenance man would face in the immediate future of from 5 to 10 years. All of them were agreed that many companies had only a few men capable of "shooting trouble" on all types of modern equipment in use at any particular operation, and that the majority of men on maintenance crews had to be supervised closely to secure proper repairs on the more complicated machine controls.

The most satisfactory method of upgrading mine maintenance men is through training classes in their home localities. There are at present in this country only a few agencies with state-wide mine maintenance education programs, and these programs are neither large enough nor developed sufficiently to cope with the problem of providing wide-spread training. Furthermore, many maintenance men do not have the urge to attend training classes, and there is a great need for the development of an "esprit de corps" (enthusiasm, devotion and jealous regard for the honor of the group) and pride in their profession among these mine employees. Any movement, then,

that would attempt to provide some education for mine maintenance men must be designed to overcome reticence and backwardness, and must also be planned to assist rather than supplant formal education programs.

Recognizing the enormity of the training problem, and likewise recognizing the need for widespread cooperation by men in the industry, the group in which the idea originated sponsored a meeting in Pittsburgh in March, 1948, to which mining men from Western Pennsylvania, manufacturer's representatives, and other interested persons were invited. The idea of developing an institute or association whereby mine maintenance men could bear talks on maintenance problems was advanced, and the reception was so favorable that plans were laid for an investigation of the proposal and its development. A committee was appointed to draw up a statement on the purpose, need, and possible method of developing an organization that could accomplish the desired education of mine maintenance men, and the report of this committee has served to guide those persons charged with the responsibility of such development. A few

statements from this proposal will serve to show the vision and hopes of those men who founded the Association:

"The purpose of the proposed organization is to promote safety and efficiency in the operation of coal mines. This can be accomplished if the men who select, install, and care for the machines and the electrical systems acquire more information regarding accepted standard safe practices which have been established by State and Federal authorities; regarding materials and methods which are in successful use at mines other than their own; and regarding equipment which is available or may become available to accomplish mining operations more efficiently, or to simplify or improve maintenance operations.

"The need for an organization to make this information available has been recognized for a long time. The need today is greater than ever before because of the enormously increased installations of electrical and mechanical equipment inside the mines and on the surface.

"Mine fires which have been caused by inadequate or defective electrical installations further emphasize the need for this organization. Such fires may cause loss of life, or loss of coal production, or property damage, or all three. With good luck, the loss may be no more than a few day's wages.

"Although the operating and maintenance personnel at neighboring mines have a common interest, that of producing coal safely and efficiently, this mutual interest has often been lost from sight. An organization whose aims would include a better understanding of these common interests is necessary.

"There is a need for greater standardization of safety practices in connection with the maintenance and installation of equipment. This is evidenced by the various sizes of trailing cables, fuses, and protective equipment which are needfully used on similar equipment.

"The increased use of electrical and mechanical equipment has necessarily increased the number of maintenance employees. The proper carrying out of this work requires persons skilled not only in electrical and mechanical maintenance, but also in selecting, handling, and training men, and in properly organizing the work."

The proposal also offered suggestions on the make-up of the organization and her certain aims and objectives could be accomplished. In conclusion the committee indicated

the broad benefits that would be derived from such an organization with the statement: "The successful promotion of safe and efficient maintenance will effectively contribute to keeping the coal industry in a strong competitive position with other fuels. This will result in continued steady employment at high rates of pay, with opportunities for advance-



Anthony Shacikoski, left and Charles Shacikoski, right, both foremen at the Leechburg Collieries Company, attended the meeting.

ment for all employees in this industry."

The proposal was accepted by the entire group, and committees were appointed to develop the organization along the lines suggested. Some of these committees worked most diligently, utilizing the services of leaders in the manufacturing, operating and maintenance divisions of the industry from all parts of Western Pennsylvania. As a result a constitution and set of by-laws were developed and approved early in the Fall of 1948, and the organization was in a position to start its educational program. The official name adopted was "The Mining Electro-Mechanical Maintenance Association."

The plan of organization is not unique, but it offers many advantages that may not be evident at the start. It resembles a tree in that it has a trunk, the Central Advisory Council, and branches or local organized groups which, incidentally, are termed Branches. The Council acts in an advisory capacity, and also provides assistance in the organization of the Branches wherever there is a demand. The latter are self-governing groups that hold regular monthly meetings, assess members for their operation, and elect representatives to serve on the Central Advisory Council.

Membership in the Association is classified as (a) Member, (b) Honorary Member, (c) Associate Member, and (d) Patron Member. "Mem-

bers" are those men at the mines who participate in or direct the operation and maintenance of equipment. "Honorary Members" are persons awarded this privileged membership for outstanding or meritorious service in connection with the Association. "Associate Members" are persons not directly employed in mining but who are interested in the promotion of better mine maintenance; this group includes equipment representatives, state and federal mining department or bureau representatives, and persons engaged in educational and safety programs in connection with the industry. "Patron Members" are companies, firms, or business enterprises interested in the work of the Association. A Patron Member may be represented by an individual who will be granted the privileges of an Associate Member. Membership may be held in a Branch or in the Association without branch affiliation; in the latter case dues are paid to and cards are issued by the Central Advisory Council.

The intent in providing for two main classes of membership, namely, Members and Associate Members, is to place future control and responsibility where the founders of the Association believe it should rest—in the hands of the men at the mines. Thus, Members may hold offices in Branches, but Associate Members are denied both this privilege and that of voting in a Branch election. The latter may, when appointed to a Branch committee, serve in any capacity that does not represent control of the executive work of the Branch. They may also be elected by a Branch to serve as a representative on the Central Advisory Council, and in that organization they shall be eligible to vote, hold office, and serve on all committees of the Council.

The Central Advisory Council is composed of representatives from each Branch, one being elected each year, and one Associate Member from each of the following: (1) The Mining Department of each state where ME-MMA Branches are established; (2) The Federal Bureau of Mines; (3) Colleges or universities with mining engineering courses; (4) A manufacturer of mechanical mining machinery and associated equipment; (5) A Manufacturer of electrical mining machinery and associated equipment; (6) A power company engaged in the generation and distribution of electrical energy; (7) A manufacturer of mining lubricants; (8) Other groups as selected by the Central Advisory Council.



For the first year of operation Associate Members of the foregoing groups who volunteered their services are serving on the Council. Following this period, organizations in each group will select the person who will represent their interests on the Council. With the development of branches and the election of branch representatives, the Council will eventually have a strong "branch" flavor. At the same time Associate Members from various organizations will provide advice on their respective fields, and will maintain the necessary contacts between the mines and the service organizations.

The health of this educational venture rests on two distinct bases: first, the ability of each Branch to establish an organization that will provide a real service for those mining men in the district served; and, second, the ability of the Association to provide programs of interest and value for each Branch. The first can be realized when a Branch utilizes the services of responsible individuals from all or a majority of the mining companies served; in this way it will reach those individuals who will benefit most from the monthly programs. The second is a responsibility of the Central Advisory Council, and this is accomplished through a "speakers bureau". Men capable of talking on a wide variety of subjects in connection with mine maintenance have placed their services at the disposal of the Association, and to date the response to these talks from the Branches has been most encouraging.

The first Branch organized was the Allegheny Valley Branch, on September 2, 1948. It covers an area with a radius of approximately 8 miles from Harwick, Pennsylvania, where meetings are held. Six coal companies are being served, and the membership as of February 1 was 140 persons, largely maintenance men. A statement from the president indicated that a drive to encourage motormen, cutters, loading machine operators, and drillers to become members would be made in the near future so as to "better acquaint them with what actually makes their machines run, and the abuse they are subject to through improper handling and lubrication. If we can do this, we may perhaps reduce the maintenance necessary to keep the machines running and at the same time build up a potential reservoir of future maintenance men." One dinner and five monthly meetings have been held. The programs at these meetings were

as follows: Movie films on maintenance of DC motors; a talk on the principles of mercury arc rectification; movies on job simplification; a talk on the principles of electricity, plus scenic movies of Colorado; and a talk on insulation versus electrical hazards and failures.

The second local group to be organized was the Greene County (Penna.) Branch, on November 3, 1948. It covers the area indicated, plus the borders of the adjoining Fayette and Washington counties. Eight coal companies are being served, and the membership as of February 1 was 253. Three regular meetings had been held up to February, with programs as follows: movie films on maintenance of DC motors; a talk on control equipment for coal mining; a talk on equipment and power circuit insulation and maintenance of hydraulic systems on mining

machinery; chains for the mining industry; and a visit to an electric coil plant in Pittsburgh, to be followed by refreshments and entertainment.

It will be noted that these two branches have leaned heavily on the "speakers bureau" of the Central Advisory Council for their programs. However, there is no intent to have all programs provided by the Council: Branches are encouraged to use local speakers that may have a special problem or treatment to present. In fact, one of the main objectives of the Association is "To provide an opportunity for the interchange of experience and information on mining maintenance problems of mutual interest," and this, we believe, can be done most effectively by using speakers.

(Continued on Page 49)



Dr. James Boyd (R), immediately after taking his oath of office on Thursday, March 24, 1949, as Director of the U. S. Bureau of Mines, received from J. A. Krug, Secretary of the Interior, two checks for back pay totalling more than \$10,000. Dr. Boyd served without pay for almost two years while awaiting Senate confirmation.





## The New All-Electric Steam Cleaner

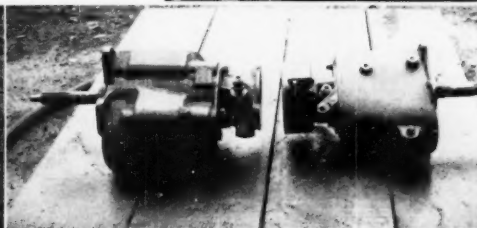
There has been a long crying need in the coal industry for an electrically heated steam cleaner for removing grease and other dirt accumulation off machinery. The Yeager Manufacturing Company of Mars, Pennsylvania, having 25 years experience in mechanical cleaning, has just developed such a steam cleaner, using a series of heating elements enclosed in a heater manifold which is completely surrounded by granulated Mica and enclosed in a steel housing.

The operating pressure of the Yeager All Electric Steam Cleaner runs from 100 to 120 pounds. When pressure reaches 125 pounds part of the heater elements automatically cuts off and stays off until the pressure is reduced to 110 pounds. The pressure line is also fitted with a soft plug

The heater manifold in the crushed Mica. →



Before cleaning with the All-Electric Steam Cleaner.



After cleaning with the All-Electric Steam Cleaner.

for additional safety. A "no water cut off" automatically cuts out the heating elements if water is not flowing through the water feed line. A mechanical blow-off valve is also located in the flow line. It has an in-built detergent tank and uses water at the rate of 60 gallons per hour. Only two service connections are required and electricity from your power circuit at the rate of 50 kw makes the steam.

Furnishing a progressively balanced temperature to provide a flow of highly saturated steam blast that

thoroughly cuts and removes the most stubborn grease and dirt, the Yeager Cleaner cleans faster than any other known method.

The Yeager All-Electric Steam Cleaner is equipped with every electrical and mechanical safety device and is approved by the Pennsylvania Department of Mines for use in fresh air. Application for use in gaseous area has been made with the United States Bureau of Mines. It is available in standard and approved models in 230-v and 440-v 60 cycle sp-ac and 250-v and 550-v dc.

## Report I INTERNATIONAL LABOUR ORGANIZATION

Coal Mines Committee  
Third Session  
Pittsburgh, 1949

At its 107th Session (Geneva, December 1948), the Governing Body decided that the Third Session of the Coal Mines Committee should be held at Pittsburgh (United States) from 19 April 1949, under the chairmanship of Mr. Eli-Leon Troclet, the Belgian Minister of Labour and Social Welfare, and should last about ten days.

Previously, during its 105th Session (San Francisco, June 1948), the Governing Body had decided that the agenda of the Third Session of the Committee should include the following four points: (1) General Report; (2) the protection of young workers employed underground in coal mines; (3) the retraining of physically incapacitated miners; and (4) hours of work in coal mines. On each of these points in the agenda, the Office has prepared a special report for the Committee's information.

As in the case of the previous session, the Governing Body decided that the General Report—which was the first item on the agenda—should deal with the following items: (a) measures taken by the Office to carry out the studies and enquiries suggested by the Committee; (b) measures taken in the different countries to give effect to the decisions of the Second Session of the Committee; and (c) recent events and progress in the coal mining industry.

The present report, which consists of three chapters, has been drawn up accordingly. Chapter I is divided into three separate sections. The first contains an account of the activities of the International Labour Office in the period between the Second and Third Sessions of the Committee, first and mainly in connection with coal mining, in accordance with the resolutions of the Committee, but also on a general level, whenever the coal industry has been or may be involved in the course of the Office's activities in general. In the second section are set forth the various steps taken by the Governments and by the industry in pursuance of the Committee's conclusions. Finally, the third section contains a survey enabling the Committee to appraise the scope of the measures taken since 1945, to obtain a clear notion of the results achieved, and to establish on the basis of these

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## Mine Examination Questions and Answers

(Continued from March Issue)

Q. 2 (a) When shall a fire boss be employed?

(b) When shall shot-fires be employed?

A. 2 (a) (15 pts.) In such portions of a mine wherein explosive gas has been generated within one year before the passage of this act, or shall be generated after the passage of this act in sufficient quantities to be detected by an approved safety lamp, the mine foreman shall employ a fire boss or fire bosses whose competency to act as such shall be evidenced by a certification of qualification from the Department of Mines on the recommendations of the examining board, as provided in Section 6, Article 24, of the mining laws.

(b) (15 pts.) In such portions of a mine in which explosive gas is being generated in sufficient quantities to be detected by an approved safety lamp, and in which approved lamps

are used, the mine foreman shall employ legally qualified shot-fires.

Q. 3. (a) What are the legal duties of a shot-firer?

(b) Who shall be permitted to fire shots electrically in any mine?

(c) What are the legal qualifica-

tions and duties of a machine-runner in a gaseous mine?

A. 3. (a) (20 pts.) It shall be the duty of the shot-firer to charge, tamp and fire all holes properly placed by the miners, and to refuse to charge any holes not properly placed. No holes shall be fired by any person other than a shot-firer. They shall use none but incombustible material for tamping, which the mine foreman shall see is provided for them at convenient places inside the mine. Under no condition shall the shot-firer use coal dust or any other com-

its future line of action.

Chapter II consists of two sections. The first contains a comparative study of pensions schemes for miners, undertaken by the Office at the Committee's request. The second is devoted to an analysis of the special miners' pensions scheme which has just come into force in the United States.

Chapter III is also divided into two sections. In the first, an attempt has been made to draw up a balance-sheet covering the past two years, and this, while not complete, is at any rate sufficiently detailed to provide the Committee with a comprehensive view of the development of the industry throughout the world. The second deals with the coal mining industry in Germany, for it was felt that, in view of events following upon the cessation of hostilities, this was sufficiently important at present to justify a separate study. To facilitate an understanding of this section, it seemed that a map of present-day Germany, showing the four occupation zones, might be most useful, and such a map will accordingly be found at the end of the report.

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bustible material for tamping. All such holes shall be fired by an approved electric apparatus, and no person other than the shot-firer shall connect the wires of or operate said apparatus. Each shot-firer shall keep a record of and report to the mine foreman every hole that he has refused to charge, every blown-out shot, and every hole that has mis-fired. It shall be the duty of the shot-firers, and miners who are permitted by this act to fire their own shots, to visit and examine the places where shots have been fired, before leaving the mine, to see that there is no fire or any other danger existing. In all mines in which coal is blasted from the solid, all holes shall be fired when all the workmen are out of the mine except shot-firers and persons delegated by the mine foreman to safeguard property.

No shot-firer or any other person shall fire a shot in any working place or any point in any mine, if his safety lamp indicates explosive gas, and he shall not be in possession of any other lamp than an approved safety lamp while performing the duties of a shot-firer, except that in addition to the safety lamp he may use an approved flash light or approved electric flash lamp of a type approved by the Secretary of Mines.

This provision is not intended to prohibit blasting in entries going into the solid coal wherein explosive gas is escaping from the coal, conditioned it is carried off rapidly, rendered harmless and diluted below the point of detection on flame of an approved safety lamp. In gaseous mines in which approved safety lamps are used, he shall fire no holes unless the entries and rooms which

are dry and dusty are so thoroughly wetted as to prevent the existence of any dry dust for a distance of not less than eighty feet from the hole to the fire, unless the dust is rendered inert to explosibility by rock dust.

(b) (10 pts.) Only competent persons, who have the necessary training and skill, and who have been properly instructed in the work, and duly authorized by the mine foreman, shall be allowed to fire shot electrically in any mine.

(c) (30 pts.) In a gaseous mine or portion thereof, the machine runner must be capable to handle and to use an approved safety lamp, and to determine the presence or absence of explosive gas; he must possess a machine runner's or bituminous Mine Officials' certificate of competency. In a gaseous portion of a mine, he shall not take an electrically operated machine within the last cut-through next to the working face, until he has made an inspection for gas, in the place where the machine is to work, unless the examination is then made by some other competent person authorized or appointed for that purpose by the mine foreman. If explosive gas is found in the place, the machine shall not be taken in. He shall not continue the machine in operation in a gaseous portion of the mine for a longer period than half an hour without an examination as above described being made for gas, and if gas is found the current shall at once be switched off the machine, and the trailing cable shall forthwith be disconnected from the power supply. The person finding gas shall at once report the fact to the mine foreman, assistant mine foreman, or fireboss, and the machine shall not again be started in such place until the fire boss, or a person duly authorized by the mine foreman, has examined it and pronounced it safe. The person in charge of a coal cutting, loading, or drilling machine shall not leave the machine while it is working, and shall, before leaving the working place, see that the current is cut off from the trailing cables. In any gaseous portion of the mine, if any electric sparking or arc is produced, outside of a coal cutting, loading or drilling machine, or by cables or rails, the machine shall be stopped, and not worked again until the defect is repaired, and the occurrence shall be reported to an official of the mine.

It shall be the duty of the machine runner to make a careful examination of the trailing cable daily and to observe the cable when in use

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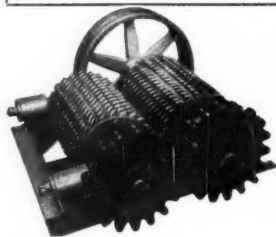
IT'S A FACT the Scottdale Double Roll Coal Crusher produces a more uniform product and cuts power costs.

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and check for abrasions and splices and to promptly report all defects found to the person in charge of electrical apparatus.

Q. 4. (a) Describe the approved "danger signal."

(b) When and where should it be used?

A. 4. (15 pts.) (a) The approved "danger signal" is rectangular in shape 10x24 inches, with a red oval in the center, with the word "danger" printed inside the oval in white letters, and the color outside the oval

is black.

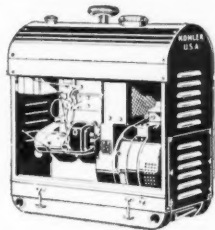
(b) (25 pts.) An approved danger signal shall be placed at the entrance to the mine while the fire boss is making his pre-shift examination; it shall also be placed at the fire boss station inside the mine when such station is located inside the mine and so remain until the fire boss completes his pre-shift examination of the mine or portion of the mine under his charge. A danger signal shall be placed at any place in the mine where explosive gas is

found, and at the entrance to any other place in the mine where immediate danger exists; also, at the entrances to all abandoned portions of the mine.

(To Be Continued)

— Please say you saw it in Coal Mining —

The Western Pennsylvania Bituminous Coal Operators Golf Association will open its 1949 season at the Nemocolin Country Club on Thursday, May 19.



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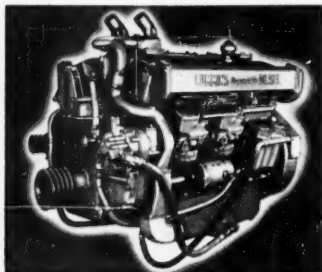
THE NEW MODEL NVHS-1200 Cummins Diesel furnishes more power than any Highspeed Diesel now in production. This newest four-cycle, 12 cylinder, V-type, supercharged Cummins Engine has a maximum rating of 550 HP turning at 2100 RPM.

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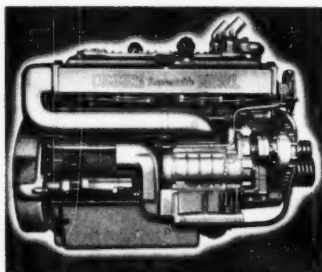
With its companion Model NVH-1200, a naturally aspirated four-cycle, 12 cylinder, V-type Diesel having a maximum rating of 400 HP turning at 2100 RPM, these latest Cummins Engines provide operators of automotive off-highway and industrial equipment all the advantages of Highspeed Diesels in the higher

horsepower range. The new Models NVHS-1200 and NVH-1200 have expanded the horsepower range of single unit Cummins Dependable Diesels now available from the former limits of 58 HP - 275 HP (maximum) to the current line of 58 HP - 550 HP (maximum). Com-

ing within this increased horsepower range are 46 different models of Cummins Diesels powering heavy-duty equipment in the automotive on-and-off-highway, mining, construction, logging, petroleum, locomotive, marine, and other industrial fields.



Fuel pump side of the new Model NVHS-12 Cummins Diesel



Manifold side of the new Model NVHS-12 Cummins Diesel.

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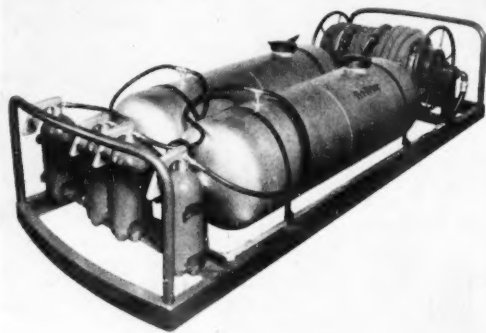
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### ... Patents ...

Less violent temperatures are employed in the invention of William N. Alderman of Chicago, on which he has obtained patent 2,465,184. This also delivers the heat produced in the furnace to a heat exchanger in the form of a hot water coil in an air chamber. Air thus warmed is sent through hollow-tile floors and walls, doing away with radiators and warm-air outlets directly into the rooms.

Although this is a strictly modern invention, it embodies a principle at least as old as ancient Rome, where hollow-tile floors were used for house warming, in what was known as the "hypocaust" system.

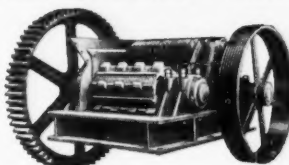
Another invention of interest to sportsmen is that of Alex H. Stark of Buffalo, on which patent 2,465,127 has been granted. It is a hollow container for a fluid scent attractive to fish. Anchored near the bottom on a set-line, it lets the luring scent trickle out into the water. Hooks attached to this chemical Lorelei, or lowered into its immediate vicinity, catch the fish, as they crowd around it.

A diesel-type engine of unique design is covered by patent 2,465,116, granted to H. A. W. Peterson of Ft. Myers, Fla. Pressure-ignition is effected in a small auxiliary cylinder located centrally above the main cylinder, in which a portion of the fuel charge is trapped. Flame from this spreads into the main cylinder, igniting the main charge there.

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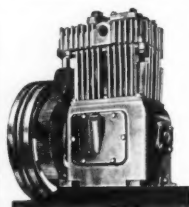
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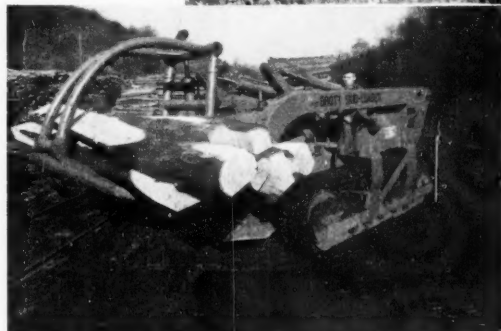
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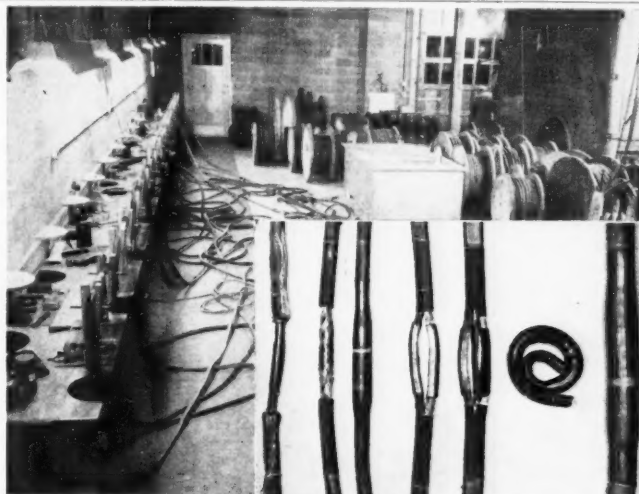
### ELECTRO-MECHANICAL ASSOC.

(Continued from Page 40)

Frankly, the originators of the Association could not foresee how far the results of their efforts would spread. It was decided that the initial branch establishments should be limited to Western Pennsylvania, and that after these had been firmly established, and the finances necessary to a continuance of the work had developed to a healthy state, offers would be made to local groups in more distant areas to join the Association. One tentative offer from a group in a state several hundred miles away has not been acted on, largely because no provision has been made for expansion to such a distance. The ability of the Association to furnish

speakers with interesting and "down-to-earth" talks on maintenance is a steady influence on the Branches that might otherwise not be able to

provide monthly programs of interest. If several branches could be established in a distant area, and arrangements could be made to develop



Electric cable subjected to severe bending requires a flexible splice. A Davidson patented vulcanized splice with neoprene coating will outlast two or three ordinary splices.

For quotations write to:

**CYRIL DAVIDSON** Mine Cable Vulcanizing  
Night Phone 3594-W — Day Phone 3219  
956 BRUCE STREET WASHINGTON, PA.

### PAINTS OVER RUST!

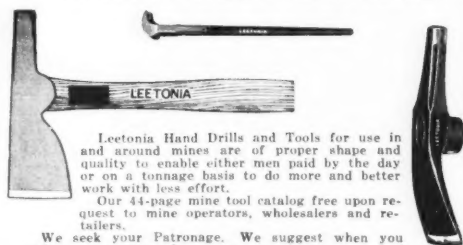
#### RUSTREM STOPS RUST!

No priming, scraping, brushing

Rustrem paints right over rust. For stacks, fire escapes, bridges, fences, flashings... all metal. Farm, auto, marine, machinery. Black and aluminum.



**SPECO, Inc.** 7308 Associate Ave.  
Cleveland 9, Ohio

**LEETONIA COST CUTTERS**

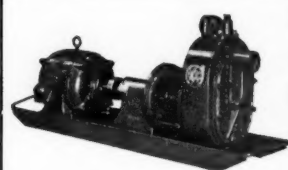
Leetonia Hand Drills and Tools for use in and around mines are of proper shape and quality to enable either men paid by the day or on a tonnage basis to do more and better work with less effort.

Our 44-page mine tool catalog free upon request to mine operators, wholesalers and retailers.

We seek your Patronage. We suggest when you make your next purchase, you request your source of supply to furnish Leetonia Drills and Tools.

**THE LEETONIA TOOL CO.,**

**LEETONIA  
OHIO**



**MARLOW  
SELF-PRIMING  
CENTRIFUGAL  
GATHERING  
PUMPS**

Complete Line Carried in Pittsburgh Stock. Tel. HU 4400

**HARRIS**  
PUMP AND SUPPLY COMPANY

a "speakers' bureau" in that area, the problem of providing monthly programs would not be so troublesome.

We believe that a wonderful opportunity has been developed to improve mine maintenance. Men at the mines can now learn of new developments as well as old truths which, incidentally, some of them never knew. Emphasis can be placed on maintenance from the safety angle, and this should be uppermost in the mind of every mining man. And equipment representatives can now protest, and with good reason, against the abuse given their machines in daily use. Short, regular meetings each

month in their home localities will encourage the attendance of those men for whom the programs are intended, whereas meetings held at some distance from their homes would not be so attractive nor as well attended. Speakers are encouraged to invite questions after their talks, and the ideas advanced during this part of the meetings are frequently as valuable as the prepared speeches. Where training programs on electrical fundamentals and mine maintenance are offered by state agencies, men can be encouraged to attend these classes and profit by such training.

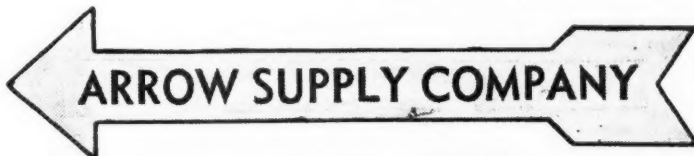
The work of the Association has created considerable interest in the short time that it has been in existence. Whether it continues to grow and prosper will depend both on its application and support. Its educational effort does not conflict with those efforts of established mining institutes and associations, largely because its activities are confined entirely to mine maintenance problems. To all who have an interest in better mine maintenance we offer this opportunity to join us in a grand movement. A request for more specific information directed to any of our members or officers will be honored at the earliest opportunity.

**STRIP MINING CONTRACTORS  
KNOW THAT ARROW SERVICE MEANS  
REAL SERVICE**

**SALES .. PARTS .. SERVICE .. RENTALS**

PARIS Horizontal & Vertical Drills  
THOR - Pneumatic & Electric Tools  
LE ROI - Compressors & Engines  
CARVER - Centrifugal Pumps  
MURPHY - Diesel Engines, Generators. Parts

TROJAN Graders  
QUICKWAY Truck Shovels, Cranes,  
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WICKWIRE-SPENCER - Wire Rope  
BROOKS BROS. - Snow Plows  
ONAN - Light Plants.



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Phone MUseum 1555-6-7

Pittsburgh 1, Pa.



## A ONE PIECE Forged Alloy Steel Standard

### Pick-Point UNDERCUTTING MINE BIT

#### ANALYSIS OF STEEL:

|            |           |
|------------|-----------|
| CARBON     | .55       |
| MANGANESE  | 1.00      |
| SILICON    | 2.00      |
| MOLYBDENUM | 1.30      |
| VANADIUM   | .35       |
| PHOSPHORUS | .025 max. |
| SULPHUR    | .025 max. |

#### ADVANTAGES:

1—Less labor changing bits. 2—Increased operating time for cutting machines. 3—Reduced power costs. 4—Reduced bug dust.

#### BLACKSMITH MACHINE SEMI-AUTOMATIC

for Resharpener Undercutting Mine Bits



The "know-how" for resharpener mine bits is acquired by mine operators through the use of a Cesco patented machine and furnace unit.

Tungsten carbide drill bits for coal and rock drilling with spiral flanges as extensions of the auger flights and for horizontal and vertical drilling in strip mines interchangeable and replaceable cutters.

#### Hollow Drill Steel and Redressing Service

Complete Service for Drills,  
Drill Steels and Bits

**SAFETY HEAD  
HAND TOOLS  
and  
PNEUMATIC CHISELS,  
DEMOLITION TOOLS  
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ALLOY STEELS**



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THE REAL ECONOMY IS FOUND IN PERFORMANCE—TRY THEM—CALL OR WRITE

**CESCO** *Manufacturing Company*

HOMESTEAD 7300

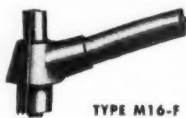
HOMESTEAD, PENNA.

## HOW HIGH ARE YOUR POWER COSTS?

### LOOK INTO MESCOWELD Rail Bonds

Faulty rail bonding is one of the most common causes of power losses in the mine. One of the first steps in perfecting your rail bonding systems is to install MESCOWELD Rail Bonds . . . for all MESCOWELD Rail Bonds have the cable attached to terminal by a patented flashwelding process to eliminate dead ends and assure perfect conductivity.

EIGHTEEN types of MESCO-WELD Rail Bonds meet all bonding requirements. Immediate deliveries are made on all types.



TYPE M16-F



TYPE M9-F



TYPE M8-F



TYPE M10-F

These Distributors  
can give you ...

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#### BRITISH COLUMBIA

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Evansville Electric & Mfg. Co.  
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#### KENTUCKY

Southeastern Sales Company  
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#### UTAH

Wetzel Equipment Agency  
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#### WEST VIRGINIA

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Buchanan-Williamson Supply Co.  
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Maynard's Machine & Electric Co.  
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Universal Supply Company  
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Bluefield Supply Company  
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Controller Block & Supply Co.  
Kermit, West Virginia

Pellish and Company  
111 Fidelity Building  
Wheeling, West Virginia

Virginian Electric Company  
P.O. Box 2833  
Charleston, West Virginia

Williamson Supply Company  
Williamson, West Virginia

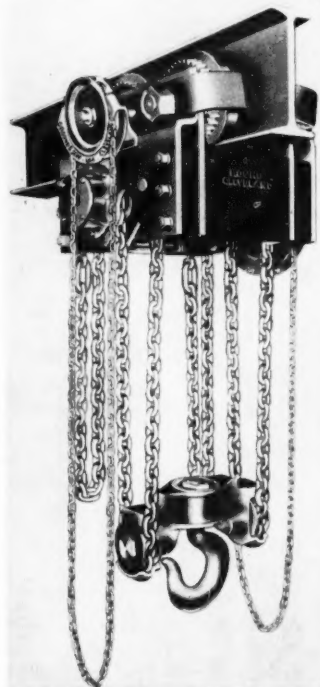
Mosebach makes 18 types of rail bonds. Inquire directly or through your distributor.

### MOSEBACH ELECTRIC & SUPPLY COMPANY

1115 ARLINGTON AVE. - PITTSBURGH 3, PA.

Phone: HEmlOCK 8332

A new line of Beam-Hugger Trolley Hoists, reputed to possess the closest head room available in any

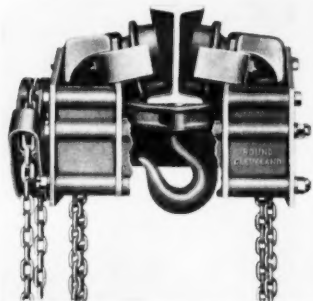


Geared Trolley Type Beam-Hugger.

hand hoist, is announced by David Round & Son, Cleveland.

The Beam-Hugger is built around the beam fitting close. When its hook is raised to maximum height, its shank touches the base of the beam. Head room is reduced to the length of the hook only. This construction adds 17" to 51" more plant working space (depending upon hoist capacity) according to the manufacturer.

Beam-Huggers are manufactured in



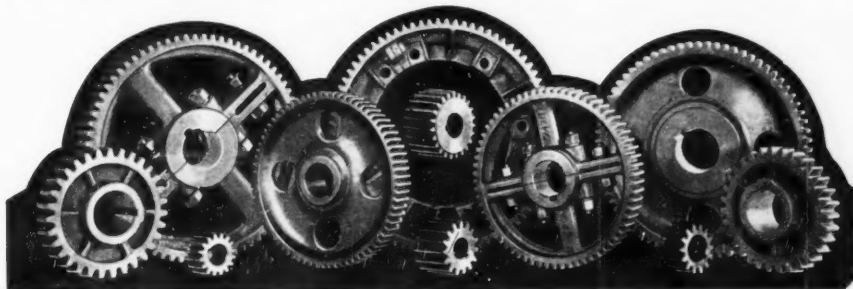
Beam-Hugger cut-a-way, showing how hook, when raised to highest position, touches beam.

MANUFACTURED BY **BERTRAND P. TRACY CO.** PITTSBURGH, PENNA.  
 BRANCHES IN HARLAN, KENTUCKY · DUQUOIN, ILLINOIS · MONTGOMERY, WEST VIRGINIA  
 MILL AND MINE SUPPLY COMPANY, BIRMINGHAM, ALABAMA

## *Longer Life—Prompt Delivery* **BUY TRACY GEARS & PINIONS**

Those who have used TRACY gears and pinions know the excellence of our products and of our service. We keep an adequate inventory for your needs. We can and do deliver quality products on short notice.

We intend to keep our customers satisfied, we want to add new customers and we believe in quality products delivered promptly. Next time, specify TRACY.



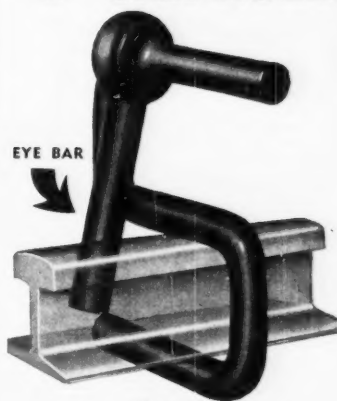
13 sizes from one to 24 ton capacities. Each hoist is available in either plain or geared trolley type.

Hoisting mechanism is of the David Round Auto-Block type. It employs two load sheaves with four strands of chain supporting the load.

Hoisting gears carry a lifetime guarantee, provided hoists are operated in accordance with material handling manufacturers' standards.

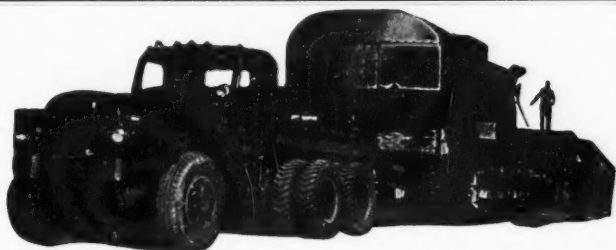
For complete specifications, write to David Round & Son, Cleveland 5, Ohio. Ask for Bulletin BH-49.

## • **SAFE and DURABLE** • **REDIPT** **"S" CAR HOLD**



(Patented)

**DUQUESNE MINE SUPPLY CO.**  
 PITTSBURGH, PA.



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INTERSTATE AUTHORITY: *Pennsylvania, Ohio, West Virginia, Maryland, Delaware, New York, New Jersey, Michigan.*

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Dependable Service

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Where  
**TOUGHNESS**  
Counts!

International  
Model TD-14 Diesel  
Crawler with Bulldozer

## Rely on Equipment Furnished by *Rish*

No matter what your equipment needs in the coal industry may be, the Rish Equipment Company has the lines and the service to help you get your job done quicker and cheaper.

Our large, modern plants are strategically located so as to give quick, reliable service to coalfield customers.

Topping our nationally known equipment lines are powerful International Crawler Tractors and Power Units. Hundreds of them are doing maximum work at minimum cost on jobs all over the coal fields of the two Virginias.

If you want to get out the coal at rock bottom cost get in touch with the nearest Rish Equipment plant.

# *Rish* EQUIPMENT COMPANY

CHARLESTON, CLARKSBURG AND BLUEFIELD, W. VA. — RICHMOND AND ROANOKE, VA.

CINCINNATI, OHIO

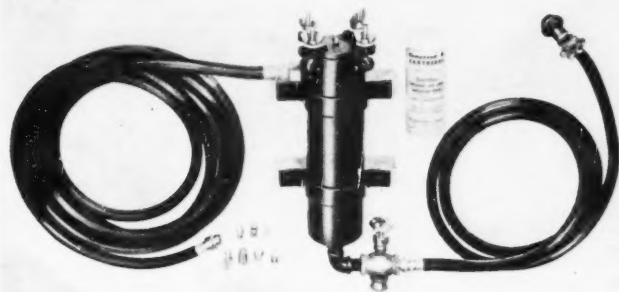
Now it is possible for coal companies to deliver dustless coal without measuring or mixing the de-dusting solution. A simplified device, available through Johnson-March Corporation, Philadelphia, Pa., does this automatically.

Known as the Automatic Flow Proportioner, it automatically dissolves Compound M in water in proper proportion to wet the coal effectively without overwetting. All the operator must do is turn on the valve and spray the coal.

The unit consists of the proportioner, Compound M cartridge, and intake and outlet hose. The hose can be connected to any water outlet. The proportioner comes completely equipped with hose, nozzle and clamps for installation. No motor or pump is required.

Advantages of the unit are:

1. Uses little water—prevents over wetting and dripping.



The photo shows the proportioner unit used for dissolving Compound M, in cartridge form, in water. The Automatic Flow Proportioner, which comes completely equipped with hose, nozzle, clamps and Compound M cartridge, needs no pump or motor for operation.

2. Eliminates waste—no solution left over.
3. Easy to operate. No mixing or measuring is necessary. The exclusive unit fits into the hose line and mixes Compound M in the correct proportion automatically as used.
4. Ready for instant use.
5. Inexpensive. The Compound M cartridge method of de-dusting coal with the automatic flow proportioner costs less than one cent per ton.
6. Harmless and safe to use. Compound M is non-toxic, non-corrosive, and will not stain coal, equipment, or clothing.
7. Easy to install. The operator has merely to attach the unit to a wall or post near the water faucet and connect the hose.
8. Requires little space. Can be installed indoors.

The device is the only product that makes water wetter automatically. The proportioner will deliver 1 to 7 gallons per minute, depending on size of nozzle.

It is believed that the ease and economy of the method will now enable many more dealers to deliver

### WAUKESHA COMPLETE ENGINES AND SERVICE PARTS



Machine Shop Service — Complete Engine Rebuilding

## MOTIVE PARTS CO. OF PA.

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HILAND 1000

### For Your Replacement Needs

Aulolite Batteries  
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Champion Spark Plugs  
Fafnir Ball Bearings  
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Raybestos Friction Materials  
S & M Shovel-lites  
Timken Roller Bearings

dustless coal, resulting in prestige and sales advantage.



ALL SIZES  
of

**CONVEYOR BELT  
CARRIED IN STOCK!**

in Pittsburgh.

**HYDRAULIC HOSE**  
Suction & Discharge  
Hose.

**IMMEDIATE DELIVERY!**

**BOSTON WOVEN HOSE  
& RUBBER CO.**

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Phone COurt 2137

**PAINTS OVER RUST!**  
**RUSTREM STOPS RUST!**  
No priming, scraping, brushing

Rustrem—paints right over rust. For stacks, fire escapes, bridges, fences, flashings, all metal. Farm, auto, marine, machinery. Black and aluminum.



**SPECO, Inc.** 7308 Associate Ave.  
Cleveland 9, Ohio



**PAINTS OVER RUST!**  
**RUSTREM STOPS RUST!**  
 No priming, scraping, brushing

Rustrem paints right over rust. For stacks, fire escapes, bridges, fences, flashings, all metal form, auto, marine, machinery, Black and aluminum.



**SPECO, Inc.** 7308 Associate Ave.  
 Cleveland 9, Ohio

Having successfully completed thorough field test on the Minnesota Iron Range, the new Model FFD Rear-Dump Euclid has just been announced to distributors. It will be displayed for the first time at the Coal Show in Cleveland, May 9-12.

This new model is powered by two diesel engines—mounted side by side—of 190 h.p. each for a total of 380 h.p. Each of these engines drives



one of the rear axles through a torque converter and torqueomatic transmission, thus eliminating the conventional inter axle power divider. There is no clutch pedal or manual shifting of gears—the operator can change to

the proper gear under full power at any travel speed. Top speed with full 68,000 lb. payload is 25.4 m.p.h. . . . total braking surface is 1620 square inches.

The two planetary drive axles—



**REDUCE YOUR SPRING COSTS!**  
**USE . . . PITTSBURGH AUTO SPRING**

Complete Service

**SPRINGS** — New, Repair, Rebuild  
**SPRINGS** — Truck, Bus, Coal Stripping Equipment  
**SPRINGS** — Engineered, Redesigned, Serviced

37 Years of Continued Service to the Industry

**WRITE or PHONE . . . Our Representatives Cover the Coal Stripping Field**

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5900 Center Avenue

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MOntrose 3000, MOntrose 3001, or MOntrose 3002

with reductions at each wheel—are mounted on free floating springs.

**The New**  
**S & A**  
**FULL BEARING**  
**DRAG LINE CHAIN**  
 a "MUST" for Strippers

Made of alloyed steel, all links poured at one time from one heat of steel. A chain of uniform analysis and heat treatment. Strong and durable — low cost — quick delivery.

**McClure Equipment Co.**

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Pittsburgh 22, Pa.

Phone: COurt 5225

**ELRECO Complete line of Trolley Hangers, Clamps, etc.,**  
**Including Feeder Line Suspensions.**

Our New Free Wheeling Anti-Friction Cable Guides for locomotives and shuttle cars will lengthen the life of your trailing cable. Ask for catalog.

Simplex Lifting Jacks, Roof Jacks, Timber Jacks, etc.  
 Copper Cable of All Kinds.

*Everything for the coal mine*

**MARTIN SUPPLY CO.**

4030 Liberty Ave.

Phone SCHenley 3222

Pittsburgh 24, Pa.

this mounting prolongs spring life because it eliminates twisting of the leaves on rough roads. Improved steering geometry and hydraulic booster steering make this big "Euc" exceptionally easy to handle in close quarters; steering brakes on the drive wheels permit very short turns for a tandem axle unit. Payload capacity is 20 cu. yds. struck and 34 short tons.

— Please say you saw it in Coal Mining —

#### ADVERTISING AGENCY MOVES TO LARGER QUARTER

Susman & Adler of the Clark building are moving to 300 Renshaw building as of May 1st. Increased business necessitates larger quarters and the firm, while one of the newer ones in Pittsburgh now services a number of important accounts among them the Allied Equipment Company, of Carnegie, Pa., distributors of heavy duty contracting and coal stripping equipment.

— Please say you saw it in Coal Mining —

A new heavy duty aluminum anti-rust paint, known as RUSTREM "Super" Aluminum is announced by Speco, Inc., Cleveland.

The new paint utilizes a recently developed aluminum paste which is reputed to be brighter and longer lasting than those ordinarily employed in paint manufacture. Its aluminum content is approximately double those of most aluminum paints, according to the manufacturer. It is guaranteed to "leaf" on all surfaces and will not turn brown



under the most adverse weather conditions.

"Super" Aluminum, like other Rustrem paints, can be applied right over rust without wire brushing or scraping. It penetrates and seals the surface, preventing further rust action. It is suitable for both interior and exterior use and is furnished in proper consistency for either brush or spray application.

— Please say you saw it in Coal Mining —

G. H. Bergstrom, chief engineer, Nelson L. Davis Company, Chicago, engineers and contractors, was elected a vice president. The Davis Company specializes in designing and building coal cleaning plants using the heavy-media float and sink process.

#### FOR SALE

Very reasonable. On account of advanced age I will offer For Sale 2264 acres of coal land consisting of several workable seams, and 520 acres of surface land all bordering on the B & O R.R. and the Elk River in Clay County, W. Va.

MATHIAS HENSLEY, Owner  
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PITTSBURGH 12, PA.

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## FOR SALE WESTINGHOUSE TRANSFORMER

660 to 220 volts. 60 cycles;  
impedance 5.2% at above  
rating. Three phase type  
A.S.L. network. Air cooled,  
full continuously. 75 de-  
grees C rise.

S. O. 51 R 532,  
Serial 3111690.

Total weight 9200 lbs.  
New. Make us an offer.

**Collins & Crabtree**

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## FOR SALE

100 K.W. Generator, complete  
with either 80 or 100 H.P.  
Westinghouse Motor—Switch  
& Panel Boards V. Belt driven.

**MINE BLOWERS - PIT CARS  
PUMPS - SCALES**

New 20 lb. Rail, \$110.00 N.T.  
Del. within 100 miles.

New 16 lb. Rail, \$115.00 N.T.  
Del. within 100 miles.

New 30 lb. Rail, \$100.00 N.T.  
Del. within 100 miles.

Frogs - Points - Splice Bars  
Spikes for various size rails.

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Phone 515 — Phone 1497

# REBUILT EQUIPMENT - - - - READY TO SHIP

## SPECIAL BARGAIN

3-Type A3G Goodman Duck bills.

## COAL DRILLS

2-Jeffrey-250 v. DC.

## COMPRESSORS-SPECIAL BARGAIN

7-240 cfm Westinghouse 3 cyl. vert. 150 lb. pres. dir. con to 50 HP AC Slip ring or DC Motors.

## TRANSFORMERS

20-New 25 kva, 450 v. pri. 220/110 v. 1 ph. 60 cy. Allis-Chalmers.

## MOTOR GENERATOR SETS

| No. | KW. | Make    | Speed |
|-----|-----|---------|-------|
| 1   | 150 | West.   | 1800  |
| 1   | 135 | G.E.    | 1200  |
| 1   | 100 | West.   | 1600  |
| 2   | 100 | Deico   | 1150  |
| 2   | 75  | West.   | 720   |
| 1   | 60  | Cr. Wh. | 900   |
| 2   | 60  | West.   | 490   |

## D.C. Generators-250 v. D.C.

| No.   | KW. | Make        | Speed |
|-------|-----|-------------|-------|
| 1     | 250 | West.       | 1200  |
| 1     | 175 | G.E.        | 700   |
| 3 New | 135 | G.E.        | 1150  |
| 1     | 125 | West.       | 860   |
| 1     | 125 | Allis-Chal. | 1150  |
| 1     | 110 | West.       | 700   |
| 1     | 100 | Allis-Chal. | 1150  |
| 1     | 75  | West.       | 750   |
| 1     | 40  | G.E.        | 720   |

## A.C. Generators-220/4000/440/220 v.

| No. | KW. | Make         | Speed |
|-----|-----|--------------|-------|
| 1   | 125 | West.        | 257   |
| 1   | 450 | Elec. Machy. | 120   |

## Pumps With A.C. or D.C. Motors

| Qun. | Gpm. | Head | Kind  | Make        |
|------|------|------|-------|-------------|
| 3    | 1200 | 300  | Cent. | Worthington |
| 3    | 1100 | 325  | Cent. | Worthington |
| 3    | 1000 | 335  | Cent. | Worthington |

## D.C. Motors-230 volts

| No. | H.P. | Make | RPM | Type |
|-----|------|------|-----|------|
| 1   | 175  | G.E. | 550 | MD   |

## SAVE OVER 50% ON NEW BLOWERS

## AXIAL FLOW VENT. FANS

|                                                                                        |                                                         |                                                              |                                                                                                                                      |                                                               |                                                         |                                                                                                       |               |                                                        |
|----------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------------------|
| 1-4000 cfm 6x3" stat. pres. Sturtevant with 4/1.2 hp., 1750/1150 rpm., 220/3/60 motor. | 2-4000 cfm 3" stat. pres. Sturtevant 2 speed AC Motors. | 2-5000 cfm 1.8" stat. pres. Sturtevant 220/440 v. AC Motors. | 31-6000 cfm Sturtevant Bul. No. 512389, 3" stat. pres., 7 blade dir. con. 5/1.5 hp. 1765/1175 rpm., 220/440 v. AC West. TEFC Motors. | 2-6000 cfm Sturtevant 1.65" stat. pres. 220/440 v. AC Motors. | 1-7500 cfm Clarage 7 1/2 hp., 220/440 v. 2 speed motor. | 2-12000 cfm 3" stat. pres. Sturtevant with dir. con. 10/3 HP. 1775/1180 rpm., 220/440 v. TEFC Motors. | 115 VOLT D.C. | 8-4000 cfm Sturtevant, 3" stat. pres. West. SK Motors. |
|----------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------------------|

4-4000 cfm American Blower, 3" stat. pres.

1-3000 cfm Sturtevant, 3" stat. pres. 3/1.25 HP. Motor.

## HOISTS OR WINCHES

200-1 1/2 ton Hand Cranked ratio 27:1 thru an enclosed double reduction gear unit with 4 planetary gears mounted on steel plate complete with 48" of 1/4" cable, ratchet type brake, push button release.

## CAR PULLERS

100-Brand New with 1/4" cable, 1 1/2 and 2 ton A.C. or D.C. Motors.

## COMPRESSORS

1-315 CFM Ingersoll Rand Portable, 100 lbs. pres. driven by 105 HP Waukesha Oil Engines, 860 rpm.

## BARGAIN - FOR SALE

100 KW. Diesel Engine Generator Sets

11-100 KW., 250/275 v. D.C. Delco Generators dir. con. to 150 H.P., Model GBD-8, 5 1/2 x 7, 8 cyl. Superior Diesel Engines, electric starting with muffler, power panel and accessories.

Practically as good as new—  
Only Used for spares.

DUQUESNE ELECTRIC & MANUFACTURING CO.

PHONE MONTROSE 5800

PITTSBURGH, PA.

## NEW AND REBUILT STORAGE BATTERY LOCOMOTIVES

Any Size Any Track Gauge  
Greensburg Machine Co.  
Greensburg Pennsylvania

ADVERTISE YOUR USED OR  
SURPLUS EQUIPMENT IN  
THIS SECTION OF COAL  
MINING FOR QUICK SALE

## RELAYING RAIL

### TRACK ACCESSORIES

## Midwest Steel Corp.

Gen. Off.: CHARLESTON 21, W. VA.  
Warehouses CHARLESTON, W. VA.  
KNOXVILLE, TENN. PORTSMOUTH, VA.

# CALL MOORHEAD

## FOR REBUILT ELECTRICAL EQUIPMENT

### LOCOMOTIVES

#### Hauling and Gathering Locomotives

20 Ton Jeff. and G.E. 500 v. 42" Ga.  
(Can be rewound 250 v.)  
12 Ton West 250 v. 36 or 44" Ga.  
8 Ton Goodman 500 v. 42/44" Ga.  
(Can be rewound 250 v.)  
6 Ton West 250 v. 904 Motors 36" Ga.  
2-4 Ton Goodman 42" Ga. 250 v. with reel.

### SLOPE AND SHAFT HOISTS

50 HP Heyl Patterson sgl. fixed drum.  
75 HP Meade Morrison sgl. frie. drum.  
75 HP Diamond sgl. frie. drum.  
200 HP Vulcan dbl. drum shaft.  
300 HP Lidgerwood sgl. fixed drum.

### STORAGE BATTERY LOCOMOTIVES

6 Ton G.E. perm. 36/44" Ga. HM 825 RR.  
6 1/4 Ton Ironton Type A 36/42" Ga.

### MINING MACHINES

112 KJ Goodman 230 v. DC 7 1/4" bar.  
35 B Jeffrey Perm. 230 v. 7 1/4" bar.

M-G SETS-ROTARIES (3 ph. 60 cy.)  
450 KW G.E. 250 v.-710 HP. G.E. Syn. 2300 v.

300 KW West. 250 v.-435 HP Syn. 2300 v.  
1200 R.P.M.

300 KW G.E. Rotary 250 v. with 3-110 KVA  
2300/4000 v. Transformers.

300 KW 250/125 v. con. 2-150 KW West.  
SK 125 v. Gen. dir. con. 450 HP Motor.

250 KW West. SK 250 v.-350 HP ATI Syn.  
2300 v. 1200 R.P.M.

100 KW West 125-150 HP West. Ind.  
75 KW 75 v. West.-100 HP West. Ind.

50 KW 125 v. G.E.-75 HP G.E. 2200 v.

35 KW G.E. 125 v.-50 HP 220/440 v. Ind.

10 KW Bardeco 125 v.-15 HP 220/440 v.

### COAL CRUSHERS

18x24 and 18x30 New Scottdale dbl. roll.

### AIR COMPRESSORS

750 cu. ft. 100 lb. pres. Chic. Pne. 2 stage  
Type OCB 17 and 10x12"  
356 cu. ft. 100 lb. pres. Chic. Pne. 12x10.  
245 cu. ft. 100 lb. pres. Ing. Rd. ERI. 10x10.  
164 cu. ft. Chic. Pne. Steam Type.

### DC MOTORS

| HP    | Make         | Voltage | Wdg.         | Speed |
|-------|--------------|---------|--------------|-------|
| 7 1/2 | West. SK 43  | 230     | sh. 1150     |       |
| 7 1/4 | G.E.         | 230     | sh. 1750     |       |
| 7 1/4 | West.        | 230     | cp. 1050     |       |
| 10    | West. SK     | 230     | cp. 1150     |       |
| 10    | G.E. CD      | 230     | cp. 1750     |       |
| 10    | West. SK     | 230     | sh. 875      |       |
| 15    | West. SK 93  | 230     | cp. 850      |       |
| 15    | Cr. Wh.      | 230     | sh. 1750     |       |
| 15    | West. SK 110 | 230     | cp. 750      |       |
| 20    | West. S 6    | 230     | cp. 975      |       |
| 20    | Al. Ch. BRDP | 230     | sh. 1150     |       |
| 20    | Cr. Wh. RR   | 230     | sh. 1150     |       |
| 30    | West. S 7    | 230     | sh. 1025     |       |
| 30    | West. SK 93  | 230     | cp. 1750     |       |
| 40    | G.E. RC      | 230     | sh. 1150     |       |
| 40    | G.E. RC      | 230     | sh. 750      |       |
| 50    | West. SK     | 230     | sh. 1750     |       |
| 75    | Rel.         | 230     | sh. 850      |       |
| 75    | West. SK 153 | 230     | sh. 1150     |       |
| 125   | West. SK 193 | 230     | sh. 450/1000 |       |
| 200   | G.E. RC      | 550     | cp. 875      |       |
| 200   | West. SK 201 | 230     | sh. 400/800  |       |
| 375   | West.        | 230     | cp. 430/860  |       |

### AC MOTORS (3 ph. 60 cy.)

| HP    | Make    | Wdg. | Spd. | Type   |
|-------|---------|------|------|--------|
| 300   | West.   | S.R. | 600  | CW     |
| 300   | Al. Ch. | S.R. | 450  | IM     |
| 250   | Al. Ch. | S.R. | 575  | —      |
| 160   | G.E.    | S.C. | 435  | IK     |
| 150   | G.E.    | S.C. | 695  | KT     |
| 150   | G.E.    | Syn. | 690  | ATI    |
| 125   | West.   | Syn. | 277  | —      |
| 100   | G.E.    | S.R. | 450  | IM     |
| 100   | Al. Ch. | S.R. | 600  | —      |
| 75    | West.   | S.C. | 860  | MS     |
| 60    | West.   | S.C. | 1200 | CS505  |
| 75    | G.E.    | S.R. | 575  | ITC    |
| 50    | Al. Ch. | S.C. | 1750 | —      |
| 40    | G.E.    | S.C. | 860  | KT     |
| 35    | G.E.    | S.C. | 1200 | IK     |
| 30    | G.E.    | S.C. | 1200 | KG405  |
| 25    | Cr. Wh. | S.C. | 600  | —      |
| 25    | Cr. Wh. | S.C. | 860  | —      |
| 25    | Cr. Wh. | S.R. | 600  | —      |
| 20    | Cr. Wh. | S.C. | 900  | —      |
| 15    | L. A.   | S.C. | 3800 | —      |
| 15    | West.   | S.C. | 1750 | W386   |
| 10    | West.   | S.C. | 860  | CS     |
| 10    | West.   | S.C. | 1160 | CS     |
| 10    | West.   | S.C. | 570  | CS560C |
| 7 1/2 | Comm.   | S.C. | 865  | P326   |
| 5     | West.   | S.C. | 565  | CS546  |
| 5     | West.   | S.C. | 1150 | CS     |
| 3     | Cent.   | S.C. | 1750 | —      |

### REDUCTION UNITS

500/700 HP Morse Chain Drive. 4.28 to 1.  
300 HP V Belt dr. pullers 30" and 48" supported by 2 roller bgs. with pedestals.  
150 HP Nuttall 1.6 to 1.

MOORHEAD ELECTRICAL MACHINERY CO.

Mayflower 7900

Pittsburgh 19, Penna.



Take ANY number—1 to 10  
**TONS**  
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# Parisi's Check



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Mr. Dario Parisi, Superintendent of the Allegheny River Mining Company, uses Kennametal U-7 Heavy Duty Bits exclusively for cutting the tough Kittanning seam near Kittanning, Pa. His written reasons at the right are based on his 31 years experience with this mine.

Mr. Parisi states: "When using conventional bits, a change of bits from one to three times per cut was necessary; Kennametal Bits are changed every three working shifts. In many instances, they could be used another 24 hours without being sharpened. Also, we now have one bit sharpener instead of four—effecting a saving of \$39.05 per day."

This typical example of Kennametal bit performance—saving 40 to 120 bit changes per day—saving 75% on bit sharpening cost—saving an appreciable amount of money on bit cost—are reasons why more mine operators use Kennametal Mining Machine Bits to reduce cutting costs and increase coal production.

Booklet M-5 gives complete particulars. We'll be glad to send you a copy.

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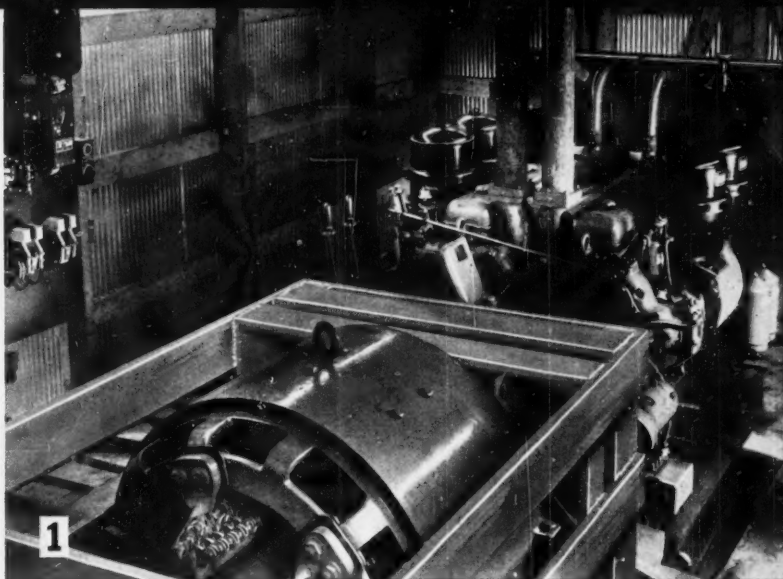
Visit Our Exhibit—Spaces A241, A242, and A340 at the 1949 Coal Convention & Exposition—May 9-12, Cleveland



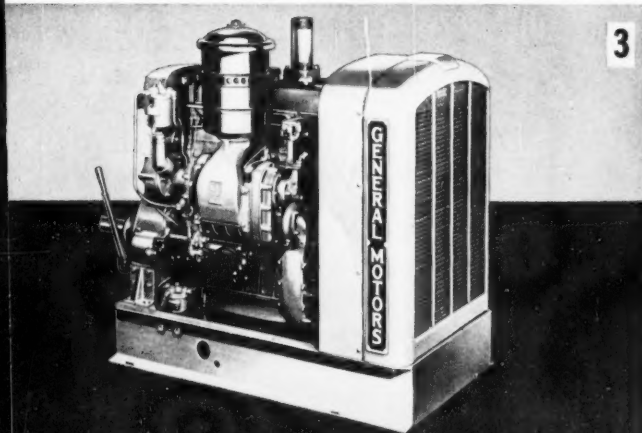
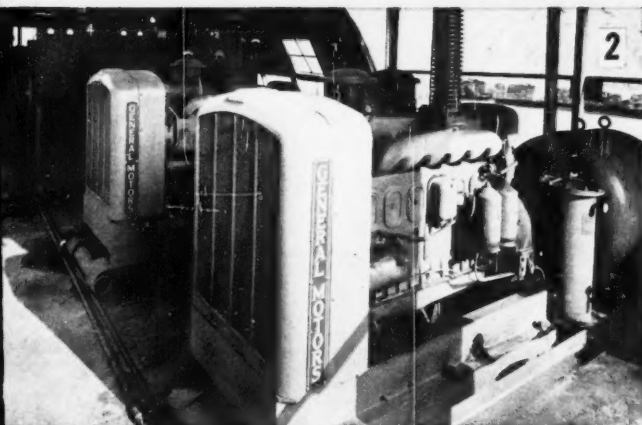
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**3** If your equipment is showing its age, "eating its head off" with excess fuel and repair bills, install a new GM Series 71 Diesel. (Changing over takes less time than a thorough overhaul.)

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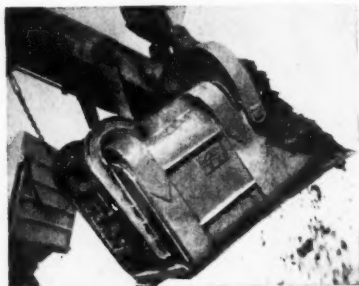
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## COAL STRIPPERS KNOW

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- ➔ that they can often use larger size ESCO buckets than possible with other makes because of maximum strength without excessive weight.

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*Cummins-Powered*  
**24 Earth Movers**  
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**a month**

A fleet of 24 Cummins-Powered Euclid Rear Dumps moves an average of 295,000 yards of overburden a month on Dick Construction Company's stripping job at Locust Gap, Pa.

The schedule calls for a one and one-half mile round trip every 12 minutes... 10 to 15-yard loads on an 8 to 10 per cent adverse grade extending to the dump... 84 hours on the job every week.

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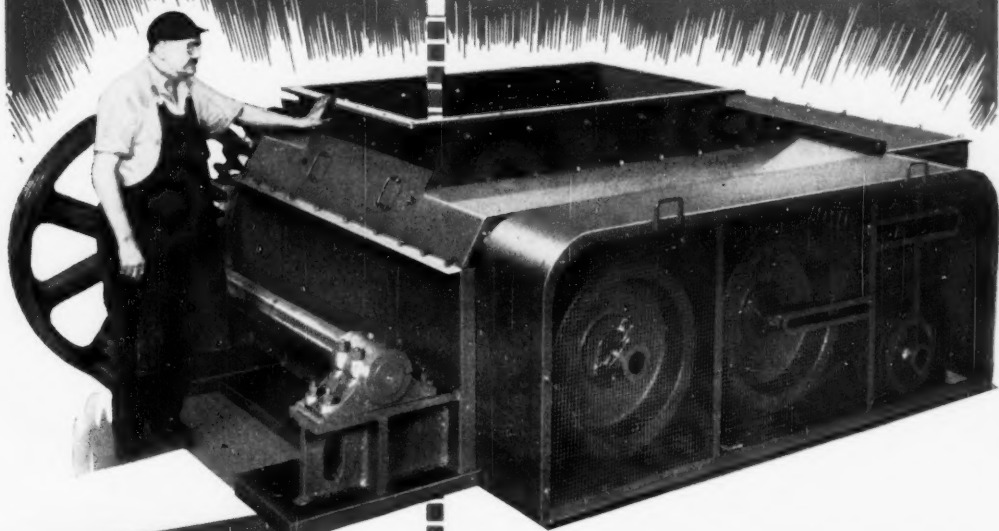
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